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THESIS

A NEW MODEL FOR UNDERSTANDING INCIDENT MANAGEMENT

by

David S. Flamm

December 2016

Thesis Co-Advisors: Glen Woodbury
             Lauren Fernandez

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The various sources of doctrine that practitioners use to conceptualize incident management result in inefficiencies, conflict, and misinterpretation. They can hinder or reduce operational success for incident management agencies and practitioners. Existing difficulties were validated through practitioner interviews and an in-depth literature review. Taking a more comprehensive and unified approach, a new incident management conceptual model is proposed and applied to several case examples. Conclusions, findings, and possible corrective measures are proposed to improve incident management doctrine.

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A NEW MODEL FOR UNDERSTANDING INCIDENT MANAGEMENT

David S. Flamm
Deputy Director, Santa Clara County Office of Emergency Services, San Jose, CA
B.A., American Military University, 2007
M.S. (MCRP), California Polytechnic State University, 2009

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Approved by: Glen Woodbury
Thesis Co-Advisor

Lauren Fernandez
Thesis Co-Advisor

Erik Dahl
Associate Chair of Instruction
Department of National Security Affairs

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ABSTRACT

The various sources of doctrine that practitioners use to conceptualize incident management result in inefficiencies, conflict, and misinterpretation. They can hinder or reduce operational success for incident management agencies and practitioners. Existing difficulties were validated through practitioner interviews and an in-depth literature review. Taking a more comprehensive and unified approach, a new incident management conceptual model is proposed and applied to several case examples. Conclusions, findings, and possible corrective measures are proposed to improve incident management doctrine.

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LIST OF ACRONYMS AND ABBREVIATIONS

CDC	Centers for Disease Control and Prevention
CERT	community emergency response team
CIWG	Continuous Improvement Working Group
CPG	comprehensive preparedness guide
DHS	Department of Homeland Security
DOC	Department Operations Center
EMAP	emergency management accreditation program
EMAT	emergency management assistance team
EMC	Emergency Management Center
EMI	Emergency Management Institute
EMPG	emergency management performance grant
EOC	emergency operations center
EOP	emergency operations plan
FBI	Federal Bureau of Investigation
FEMA	Federal Emergency Management Agency
HAZMAT	hazardous materials
HSPD	homeland security presidential directive
IAEM	International Association of Emergency Managers
IC	incident commander
ICP	incident command post
ICS	incident command system
ICST	incident command support team
IED	improvised explosive device
IMT	incident management team
IRB	Institutional Review Board
ISPR	incident specific preparedness review
KSAs	knowledge, skills, and abilities
LL/CIP	Lessons Learned/Continuous Improvement Program
MACC	Multi-Agency Coordination Center
MACG	Multi-Agency Coordination Group

MACS	multi-agency coordination system
NCP	National Oil and Hazardous Substance Pollution Contingency Plan
NEMA	National Emergency Management Association
NFPA	National Fire Protection Association
NIMS	National Incident Management System
NRF	National Response Framework
OIG	Office of Inspector General
PAG	Policy Advisory Group
PPD	presidential policy directive
SEMS	standardized emergency management system
SONS	spill of national significance
UCC	unified combatant command

EXECUTIVE SUMMARY

This study is a qualitative assessment of current incident management doctrine. Amongst the various sources of foundational doctrine guiding the disciplines and the practitioners that compose the incident management enterprise a number of inconsistencies, gaps, redundancies, and obfuscations can be found that negatively impact the interoperability, the response efficacy, the conceptual understanding, and the potential positive growth of the enterprise. This study is divided into various sections consisting of discovery and analysis, synthesis, application, and findings.

The discovery and analysis section consists of practitioner interviews and an in-depth incident management literature review. The synthesis section consists of a proposal for a new model for the conceptual understanding of incident management that attempts to resolve and deconflict findings identified in the analysis section. The synthesis section's proposed model consists of a rectified comprehensive lexicon with definitions and justifications, as well as conceptual diagrams with narrative descriptions that serve to illustrate various components of the incident management enterprise, system, and process. The synthesis section and output is followed by an application section where the proposed conceptual model is applied to four case examples (a major Stafford Act event, a non-Stafford Act event, a domestic terrorist non-Stafford Act event, and an off-shore non-Stafford Act event), which serves to help illustrate the applicability of the proposed conceptual model. The application section is then followed by conclusion and implementation sections. These sections outline the major findings related to incident management as an enterprise, system, and a process that have been identified and discovered throughout the various sections of this study, as well as recommended implementation measures for the synthesis output's proposed conceptual model that might serve to address the findings outlined in the conclusions section.

While the proposed lexicon and conceptual model is the primary output of this thesis, several major findings and conclusions related to incident management are made. The conclusions can broadly be categorized as doctrinal literature findings. Within the conclusions are two main topic areas, the first of which is specific to the relationship

between crisis philosophy, the operational movement of resources, and the role of Department Operations Centers. The second topic area is related to deficiencies in existing foundational term and concept definitions.

In addition to the previously identified findings and conclusions, a number of recommended implementation measures for the proposed conceptual model are suggested that might serve to address these findings and conclusions. The implementation measures and broad incident management enterprise recommendations are correlated to the primary conclusions categories.

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- To Joe Guzzardi, whose mentorship and friendship has probably been the largest contributor to my passion, appreciation, and continued momentum in the field of emergency management. You were an unwitting pioneer for the discipline of emergency management, and the career field does not realize or appreciate what it owes you.

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- To my Naval Postgraduate School classmates, who consistently sought to understand how emergency management fit into the homeland security endeavor, and demonstrated the vast professionalism and insightfulness that is pervasive and prevalent in the homeland security enterprise. I feel extremely safe with you geniuses at the helm.

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I. INTRODUCTION

When considering incident management, whether as an enterprise, an endeavor, a system, an action, or an organizational model, it can in all cases be considered a tool for sense making. It allows practitioners to understand how to organize and act collaboratively to effect or create order from disorder. Any sense making tool is simply an idea that describes the relationships between what exists and the observers to form an organized pattern of thought that informs a paradigm of comprehension about their place within that world, system, or phenomena, and informs action. How one person applies a given sense making tool, or idea, may be different than the next person depending on how complete or granular the idea is, thus affecting paradigms differently. It could be said then (and has been said by Robert de Neufville in his description of John Dewey's instrumentalism) that "the value of any idea is determined by its usefulness in helping people to adapt to the world around them."[1]

Based on the aforementioned description, if people have trouble adapting to the *world*, *system*, or *phenomena* that an *idea* is intended to describe then either their understanding of the idea is flawed, or the idea itself is incomplete or flawed. In relation to this study's topic, incident management as a conceptual model, the "idea" is incident management, and the "world" is the enterprise of collaborative disciplines, functions, and organizations; the "system" is the processes of collaboration defined in the doctrine; and the "phenomena" are the various types of incidents being managed. However, whether it is arguments about Emergency Operations Center (EOC) vest colors, or confusion about the role of Department Operations Centers (DOCs), or inconsistencies in the action planning process across the nation, or confusion by some disciplines about the purpose or function of other disciplines, or the confusion about the differences between protection or prevention and mitigation or preparedness, or lack of agreement or consistency in the definition of tactics, operations, and strategy, or frustration over systemic mission-creep, or any other common frustration amongst practitioners as documented in after action

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[1] Robert de Neufville, "Instrumentalism," *Encyclopedia Britannica*, accessed January 1, 2016, http://www.britannica.com/topic/instrumentalism.

reports from incidents large and small, it is proposed (and indeed the problem statement of this study) that the idea of incident management in its current manifestation is under-encompassing. The instrumental value of incident management as an idea or sense making tool in its current form is found wanting.

To make the idea of incident management as a tool for sense making more instrumental, or useful as a conceptual model, this study discovers, analyzes, and validates the problem. The study then provides a comprehensive step-by-step rebuild of its foundational and deficient components in an exploratory manner, an exercise in radical empiricism in other words, resulting in a proposed conceptual model. The proposed conceptual model is then applied to four case examples (a major Stafford Act event, a non-Stafford Act event, a domestic terrorist non-Stafford Act event, and an off-shore non-Stafford Act event), which serves to help illustrate the applicability of the proposed conceptual model. The application section is then followed by conclusion and implementation sections.

As Clive Barnett states in his paper on Foucault's problemitization, "If we see problematizations as amplifications or intensifications of domains of engaged action, then the pressing analytical task is no longer viewed as one of critical disruption, but rather one of rearranging what is already known, of seeking to 'make visible what is visible.'"[2] It seems incident management then, through the discovery and analysis section of this study, has been effectively problematized, what is left then is to rearrange what is already known and make visible what is visible with a new conceptual model.

A.   PROBLEM STATEMENT

Within the incident management enterprise, various conflicting and vague definitions, terminologies, roles and responsibilities, and concepts are found in policy, code, doctrine, and mission statements. This issue, combined with widely differing incident management organizational structures, has created philosophical, operational, and identity conflicts for incident managers. These conflicts force incident managers to

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[2] Clive Barnett, "On Problematization: Elaborations on a Theme in 'Late Foucault,'" accessed January 1, 2016, http://nonsite.org/article/on-problematization.

choose which competing interpretations or paradigms they subscribe to before, during, and after major incidents and events. The lack of clear understanding on the part of incident management practitioners of all types and all of their various stakeholders for what incident management's primary principles, definitions, components, and concepts should be, particularly where their respective mission spaces interface, has created conflict, confusion, and frustration amongst practitioners and may be hindering successful incident management endeavors (during incidents and day-to-day). This problem is corroborated through practitioner interviews in the discovery and analysis section of this study.

Discovering, illuminating, describing, defining, binding, and categorizing the various aspects and components of the incident management enterprise will help to identify and de-conflict the current narratives and mission spaces within the burgeoning and well-established disciplines that compose the incident management enterprise and promote consistent expectations for practitioners and organizations. This process will help to discern a more satisfying and appropriate sense-making model for understanding the components and concepts of incident management.

Through the course of this research, a validation that in fact a pervasive pattern of vagueness, obfuscation, and inconsistency in the existing incident management doctrine does exist is provided through discovery and analysis, with specifically categorized and identified discrepancies. This process allowed for a proposed sense-making framework and conceptual model with bounded domains of incident management mission spaces, activities, components, defined phases of incident management, and methods for determining the knowledge, skills, and abilities of incident managers (all variants). More importantly, it will hopefully allow for greater clarity and context for further discussion about the most appropriate way forward for the various aspects of incident management.

A sense-making framework and conceptual model outlining the various incident management components, mission spaces, paradigms and narratives, and their contributing sources will hopefully help in identifying current and potential points of conflict amongst mission priorities, and help to stem the tide of unproductive future divergence in paradigms.

B. RESEARCH QUESTIONS

What are the current gaps between reality and literature, overlaps, obfuscations, and areas lacking clarity in the various incident management doctrine definitions, components, and concepts?

Is a more satisfying and appropriate sense-making framework and conceptual model for understanding the existing concepts and components of incident management and the roles, responsibilities, and authorities of incident managers available to address the gaps, overlaps, obfuscations, and areas of lacking clarity in current doctrine?

C. RESEARCH DESIGN

The following sections are a description of the methods and processes used in researching the topic of incident management. This description outlines specifically what was studied, how the sources were identified and prioritized, the known limits of the research process, which data sources specifically were chosen, the specific research type or mode employed, the resulting output, and a conclusion about the process in general. This section is designed to allow the reader to understand and trace the process of logic for this study.

1. Selection

The extent literature that makes up the current incident management doctrine and guidance is the target of analysis. The samples of doctrine reviewed demonstrate common and prevalent pattern phenomena. The problem statement and justification for analysis are validated through practitioner interviews approved through the Naval Postgraduate School Human Subject Research Institutional Review Board (IRB). The corroboration of the broad sample of experienced practitioners serves to solidify and illustrate the pervasiveness and breadth of the problem. As the problem is assumed to stem from a lack of guidance, definition, and doctrine clarity within the extent literature, the best source of analysis is the literature itself. A new proposed incident management conceptual model, serving as the synthesis of the interviews and literature review, are then applied to case example illustrations of a major Stafford Act event, a domestic non-

Stafford Act event, a domestic terrorist non-Stafford Act event, and an off-shore non-Stafford Act event. These event types were chosen specifically for their breadth, relevance, and comprehensive spectrum of application. The Stafford Act constitutes the statutory authority for most federal disaster response activities especially as they pertain to Federal Emergency Management Agency (FEMA) and FEMA programs, and the guidance that outlines disaster types that local and state government eligibility for federal reimbursement for response activities.[3]

2. Limits

The specific or assumed causes of any identified doctrine deficiencies or trends are not evaluated specifically. This study simply demonstrates that they exist and provides recommended methods for going forward by proposing new frames and models of perspective. Additionally, the synthesis is a qualitative subjective approach of radical empiricism and an inductive Socratic method of hermeneutic exploration. Due to its subjective nature, this method inherently lends itself to critique, which is expected and invited, as the intent of the synthesis is to encourage, incite, and inspire an academic and professional dialogue of Socratic dialectic debate that will ultimately result in more effective, pragmatic, and appropriate incident management doctrine.

3. Data Sources

Practitioner interview data was gathered to validate that the problem identified in the problem statement is common and pervasive. An inductive and categorical analysis of missing, confusing, overlapping, or obfuscated elements amongst the extent literature was identified in the literature review serving as data points. Additionally, as validation for the utility of the inductive synthesis (proposed incident management conceptual model), case example after action reports of a major Stafford Act event, a non-Stafford Act event, a domestic terrorist non-Stafford Act event, and an off-shore non-Stafford Act event were evaluated through the lens of the proposed model's concepts.

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[3] Federal Emergency Management Agency. *Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended, and Related Authorities* (FEMA 592) (Washington, DC: Federal Emergency Management Agency, 2007), http://www.fema.gov/pdf/about/stafford_act.pdf.

4.   Type and Mode of Analysis

Using a qualitative research paradigm and an inductive systematic method to accomplish practitioner interviews and a literature review and analysis, this study finds and catalogs the gaps between doctrine and reality, as well as persistent patterns of overlaps, obfuscations, and areas lacking clarity in the various incident management components found in doctrine. This study then provides a new proposed conceptual model based on an empirical inductive Socratic synthesis and evaluation of cogent aspects of currently existing perspectives to fill in the identified gaps in the extent literature and doctrine discovered in the interviews and literature review. The specific steps are as follows:

- Complete interviews of incident management practitioners to test the hypothesis that the problem exists, and if it exists, its potential scope.

- Conduct an in depth analysis of the extent literature identified in the literature review specifically to identify and catalogue patterns of confusion, conflict, lack of clarity, and lack of definition.

- Synthesize the literature analysis and propose a rectified incident management lexicon and components list.

- Conceptually graph or model the proposed incident management lexicon and components and provide appropriate explanatory narrative.

- Examine applicability of proposed incident management lexicon, components, models, and graphs through case example application.

- Provide conclusions and implementation recommendations for the proposed incident management conceptual model for understanding the concepts of incident management.

5.   Output

The proposed conceptual model is a series of visual conceptual charts accompanied by narrative descriptions, as well as a proposed lexicon of definitions and definition justifications making up a sense-making model to provide a better definition of the various components and concepts of incident management followed by recommendations for implementation. The provided conceptual model and framework

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will improve the definition and hopefully stymie the continued future persistence of the negative patterns and findings identified in the literature review and analysis.

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II.   INTERVIEWING INCIDENT MANAGEMENT PRACTITIONERS

To prove that the problem described in the problem statement exists, and its potential scope or pervasiveness, interviews of a sample of experienced incident management practitioners from across the incident management enterprise were interviewed. Employing the interview process ensures that the voices of those who are most intimately familiar with the source data (incident management doctrine) and who have experience implementing it are heard and integrated in to the analysis of the extent literature. The experiences, lessons learned, and resulting opinions and perspectives of these experienced practitioners are in turn extremely valuable, and an absolutely integral part of this study and its results. The findings and conceptual model that is this study's product are meant to directly serve and enhance the capabilities and processes of the interviewees and practitioners like them. The interviews generally lasted about an hour, with a couple of them going nearly two hours long, which is over 10 hours of answers. Considering only twelve questions were asked, it is a lot of information. While it is not feasible to completely distill all of the tremendous and interesting insights provided by the interviewees, and a number of very interesting comments and trends were discovered during the interviews that would likely be of interest to the incident management enthusiast, many were very subjective in nature and were not suitable as distilled findings. The value of some of these more subjective trends of interest are intended to be captured within this study's proposed conceptual model.

A.   SELECTING THE PRACTITIONERS

To obtain a diverse sample of the incident management enterprise, practitioners were selected from federal, state, county, and municipal agencies from disciplines (or with experience in disciplines), such as emergency management, firefighting, law enforcement, public health, emergency medical services, and several branches of the military. The practitioners were each selected by the author of this study because they were known to the author as personal connections with extensive or significant experience, credentials, qualifications, education, position, or a combination thereof. The

seven interviewees have a collective 150 years of experience within the incident management enterprise. While the focus of this thesis is public sector incident management structures and concepts, which may be analogous to private sector implementation, it should be noted that private sector incident management practitioners were not part of the interview sample.

The majority of the practitioners selected currently hold positions in California, partially due to convenience for the interviewer; however, this dynamic presents advantages and disadvantages. California has one of the most robust, renowned, and established statewide emergency management systems, and such, perhaps provides a greater granularity in the context of experience the interviewed practitioners have. Additionally, California is subject to some of the most frequent large natural disasters and incidents in the country, which allows practitioners across the state to apply their knowledge and discipline in real world events relatively often. The downside to this selection is that every state is not California, and may not be able to or interested in implementing a similar system to California, and the experiences and analogies the interviewees provide may not be completely analogous to other states. Fortunately, this study does not necessarily seek to promote California's statewide emergency management system, and many of the practitioners have experience in positions outside of the state of California that helps to broaden the value of their perspective.

The following events are a small example or sample of the type of events the interviewees have participated in: September 11, 2001, Hurricane Katrina, Hurricane Sandy, Deep Water Horizon, Northridge earthquake, Napa County earthquake, the Lake County wildfires, the Tea, Zaca, and Jesusita fires in Santa Barbara County, and Y2K preparations. This list is not meant to inspire an "appeal to authority" logic fallacy, but merely to demonstrate that the practitioner perspectives are relevant to current incident management doctrine. To avoid the "appeal to authority"[4] logic fallacy, the names and

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[4] (Just because an authority says something does not make it inherently true.) Jesse Richardson, Andy Smith, and Sam Meaden, "Your Logical Fallacy Is…," Flip Creative, accessed July 25, 2016, https://your logicalfallacyis.com/appeal-to-authority.

positions of the interviewees have been specifically omitted from the published version of this study.

B.   TYPES OF QUESTIONS

The questions, which are listed in Appendix A, were designed to elicit insight and experiences related to incident management doctrine and guidance documents. The first questions were designed to encourage the interviewees to reflect on their experience and the events they have responded to or participated in, and they are then considered primed for analysis. The following several questions were designed to elicit critical analysis of the interviewees' experience participating in the response aspects of incident management, and how doctrine or guidance documents aided or hindered their experience. The next questions were designed to elicit critical analysis of the interviewees' broader experience applying incident management doctrine and guidance documents during the entire incident management process individually, organizationally, in an inter-agency capacity, or as an individual agency. The final questions were designed to elicit thoughtful reflection on pivotal elements of success.

Ultimately, the interview was designed to allow a healthy sample of incident management enterprise practitioners with significant experience to explore critically their frustrations, successes, and general perspectives of existing incident management doctrine and guidance with the outcome of identifying areas of consistency, corroboration, or correlation. The questions were designed specifically not to incite any specific bias or elicit answers that could be used in a "gotcha" style critique of the practitioners themselves. The interviewees were encouraged to answer the questions with as much brevity or elaboration as necessary that they were comfortable in answering.

C.   INTERVIEW RESULTS

The outcome of these interviews is a list of insightful findings and recommendations, as well as a consistent trend of corroboration. Although, a few interesting areas of divergence arose amongst the interviewee's answers. The following sections discuss the answers and responses, disagreements and inconsistencies, intriguing comments and trends, as well as a distillation of the results.

1.   Useful Sources of Doctrine

When asked which incident management publications, guidance, or pieces of doctrine were most useful to them throughout their careers, the following were mentioned: ICS Field Operating Guide, The National Response Framework, the 2011 NIMS Training Documents, The California Standardized Emergency Management System Function/Section Specific Guidance, Coast Guard Publication 3-28: Incident Management and Crisis Response,[5] The FEMA Action Planning Guide, National Fire Protection Association (NFPA) 1600: Standard on Disaster/Emergency Management and Business Continuity/Continuity of Operations Programs, and NIMS. Several interviewees responded that there was no one document that has been particularly helpful.

2.   Distilling the Results

Not only did these interviews validate and corroborate the problem statement for this study, and the purpose for conducting them in fact, but they also illuminated a number of additional interesting findings related to gaps and deficiencies within incident management doctrine and the enterprise's conceptual understanding of itself. It should be noted that due to the limited number of interviewees, the following findings are purely preliminary and interesting as potential points for further investigation. The following list of findings is derived from the interviews in their entirety (many of these findings are not outlined specifically in the aforementioned overview for brevity purposes):

- Practitioners consistently agree that discipline and cultural differences are pervasive because of a lack of common foundational incident management training amongst all practitioners within the enterprise.

- Many practitioners felt that a difference existed between appropriate and inappropriate mission creep. For example, filling the role of a city without being asked or expressed permission by a county when the city has no capability to execute its roles and responsibilities for public safety is an example of potentially appropriate mission creep. Whereas, an EOC redundantly, inadvertently, or purposely directing tactical operations in the field or at the incident is an example of inappropriate mission creep.

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[5] U.S. Coast Guard, *Incident Management and Crisis Response* (Publication 3-28) (Washington, DC: U.S. Coast Guard Headquarters, 2014), https://www.uscg.mil/doctrine/CGPub/CG_Pub_3-28.pdf.

- All the interviewees expressed in some way that incident management champions and authorities with legitimacy need to be identified and given a voice and medium for frequent national dialogue and mentorship.

- Many practitioners feel that a systemic practice of accountability for incident management organizations and agencies needs to be more nationally consistent to ensure best practices are being identified, poor practices are being identified and reduced, and capabilities and operational capacity is being increased nationwide.

- Many incident management practitioners do not consider themselves part of a larger collective "enterprise," or are unaware that they are.

- Amongst some practitioners is a perception that FEMA is not a suitable incident management lead. It only has legitimacy in the consequence management aspects of incident management, and no legitimacy in the crisis management and threat management (pre-incident) side of things.

- Practitioners agree that mission spaces have not been bound well in current doctrine. Practitioners do not feel that FEMA has an interest in bounding mission space, nor professional organizations (such as International Association of Emergency Managers (IAEM)). A better venue for national dialogue is needed to determine best bounding of mission spaces.

- While some interviewees feel that the definition of various incident management disciplines, actions, event types, activity levels, etc., and the differences between them need to be more clearly delineated in foundational documents, others feel that the problem lies in the implementation of current doctrine. In either case, it seems the problem lies with the doctrine, in that it is not clear or prescriptive enough to be implemented consistently.

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III. LITERATURE REVIEW

"Crisis" is a lay term in search of a scholarly meaning.[6]

~ James A. Robinson

Since the end of World War II, Congress and Presidents have debated, formulated, and revised administrative responsibilities for emergency management.[7]

~ Henry B. Hogue and Keith Bea

A. DISCERNING EMERGENCY AND INCIDENT MANAGERS

Based on this study's practitioner interviews, it is apparent that disagreement, confusion, and a lack of clarity occur about whether incident management and emergency management are synonymous concepts. Some of the practitioners used the terms interchangeably, while others considered incident management to be under the umbrella of emergency management, and others felt that emergency management was merely one component of incident management. Based on this phenomenon, it seems that the best course of action in determining what the conceptual model for managing incidents and events should be is to discern between these two terms in the existing literature. The exploration of the leading doctrine and literature on this topic will then likely reveal the sources of other relevant components and areas of needed definition or exploration.

The research available on the topic of emergency and incident management narratives and paradigms specifically is extremely limited. However, the available research, literature, and data available on emergency management as a profession and its evolving mission space in general are extremely broad. This review is therefore a comparative analysis of the various sources that define explicitly and implicitly the roles, responsibilities, and expectations of emergency management, and how they inform

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[6] James A. Robinson, "Crisis," *International Encyclopedia of the Social Sciences* 3 (1968): 510–514.

[7] Henry B. Hogue and Keith Bea, *Federal Emergency Management and Homeland Security Organization: Historical Developments and Legislative Options* (RL33369) (Washington, DC: Congressional Research Service, 2006), 4.

various narratives and paradigms within incident management that may be congruent or incongruent. This analysis will hopefully help to define new emergency and incident management paradigms and narratives and inform a model for categorizing elements of those newly defined narratives and paradigms.

This literature review is separated into seven categories that address sources of explicit and implicit expectations of emergency management within incident management, where specific laws, funding requirements, policies, plans, and procedures exist, where they are consistent or inconsistent, and which types of emergency management and incident management narratives they inform. The various sources of explicit and implicit roles, responsibilities, and expectations of emergency and incident management lend themselves to being interpreted and applied differently and selectively amongst practitioners, thus creating various paradigms and narratives that then inform mission priorities that may be in conflict with the mission priorities of other organizations with a different paradigm.

B. EXPECTATIONS, ROLES, AND RESPONSIBILITIES OF EMERGENCY AND INCIDENT MANAGEMENT

The definition of explicit according to *Merriam-Webster* is: "Fully revealed or expressed without vagueness, implication, or ambiguity and leaving no question as to meaning or intent."[8] An explicit expectation in regards to emergency management for the purpose of this analysis is one that outlines specific requirements, actions, or roles and responsibilities. Thousands of explicit and implicit expectations are likely placed on emergency and incident management, for ease of classification and evaluation, a categorization of the sources of those expectations should be established. For simplification purposes, the most obvious categories of expectations are used:

- federal government level plans, policies, and regulations

- state government level plans, policies, and regulations

- local government level plans, policies, and regulations

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[8] *Merriam-Webster OnLine*, s.v. "Explicit," accessed April 17, 2015, http://www.merriam-webster.com/dictionary/explicit.

- emergency management grant guidance

- professional association guidance

- accreditation and training institution guidance

- academic and practitioner documents

In the following subsections, each of the aforementioned source categories of emergency and incident management expectations are explored.

1. Federal Government Level Plans, Policies, and Regulations

The following literature is the most relevant list of federal level documents that establish explicit and implicit emergency management and incident management expectations: the *National Preparedness Goal*,[9] the *National Response Framework*,[10] *National Infrastructure Protection Plan*,[11] *Emergency Services Sector-Specific Plan: An Annex to the National Infrastructure Protection Plan*,[12] T*he National Incident Management System*,[13] The *Emergency Management Assistance Compact*,[14] The Homeland Security Act of 2002,[15] and the Post-Katrina Emergency Management Reform Act of 2006.[16] These documents are the guiding federal documents for emergency

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[9] Jeh Johnson, *National Preparedness Goal*, 2nd ed. (Washington, DC: Department of Homeland Security (DHS), 2015), http://www.fema.gov/media-library-data/1443799615171-2aae90be55041740f97 e8532fc680d40/National_Preparedness_Goal_2nd_Edition.pdf.

[10] Federal Emergency Management Agency, *National Response Framework*, 2nd ed. (Washington, DC: U.S. Department of Homeland Security, 2013), 3, http://www.fema.gov/media-library-data/20130726-1914-25045-1246/final_national_response_framework_20130501.pdf.

[11] Michael Chertoff, *National Infrastructure Protection Plan* (Washington, DC: Department of Homeland Security (DHS), 2009), http://emilms.fema.gov/IS821/assets/NIPP_Plan.pdf.

[12] Todd M. Keil, *Emergency Services Sector-Specific Plan: An Annex to the National Infrastructure Protection Plan* (Washington, DC: Department of Homeland Security (DHS), 2010), http://www.dhs.gov/ xlibrary/assets/nipp-ssp-emergency-services.pdf.

[13] Federal Emergency Management Agency, *National Incident Management System* (Washington, DC: U.S. Department of Homeland Security, 2008), http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf.

[14] *Emergency Management Assistance Compact*, Pub. L. No. 104-321, art. II (1996) http://www.emac web.org/index.php/learnaboutemac/emac-legislation.

[15] *Homeland Security Act of 2002*, Pub. L. No. 107-296 (2002), http://www.dhs.gov/xlibrary/assets/ hr_5005_enr.pdf.

[16] Susan M. Collins, "S.3721—Post-Katrina Emergency Management Reform Act of 2006, 109th Congress (2005–2006)," Congress.gov, July 25, 2006, https://www.congress.gov/bill/109th-congress/ senate-bill/3721.

management that specifically address emergency management as a capability, discipline, organizational structure, or activity.

The casual reader and emergency management practitioner might think the aforementioned list is missing key documents, such as the Stafford Act, Homeland Security Presidential Directive five (HSPD-5), and various presidential policy directives, such as PPD-1. However, none of those documents specifically address emergency management as a discipline or function, nor do they address emergency managers, crisis managers, risk managers, or incident managers as practitioners having any specific role.

Ultimately, at the federal level, the explicit expectations, roles, responsibilities, authorities, and definitions of various incident management (using the term broadly) practitioners and their various professions are nuanced, sometimes convoluted, occasionally in conflict, and often add or build upon each other. The terms emergency management, crisis management, incident management, business continuity, and emergency and disaster preparedness seem to be used fairly interchangeably, and distinct delineation amongst these terms is very illusive. Greater definition of these various terms and practices would be extremely beneficial in federal documents to help guide appropriate response, coordination, and professional distinction. Emergency management seems to have become the catch-all term for each of these very different aspects.

2.   State Government Level Plans, Policies, and Regulations

Analyzing and synthesizing the various explicit definitions and delineations of emergency management terms and concepts from each of the 50 American states, while potentially useful, is extremely arduous and probably not entirely necessary. Most, if not all states, have a state emergency management organization of some sort and have an emergency operations plan of some sort. Within those plans are descriptions of state emergency management personnel and local emergency managers, as well as the function of EOCs and their relationship with the field. The similarities and homogeneity amongst plans at the state level in regards to terms and definitions is likely due in part to the inherent vagueness and scope of state level plans, as well as the fact that they primarily

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use the same guiding federal documents and language as a framework. However, some small differences should be noted.

To synthesize some of the primary key differences amongst states quickly, language specific to four very different state emergency operations plans are highlighted: Alabama, California, Colorado, and New York. These four states were chosen due to the fact that their plans were easily accessible, were in very different regional geographic areas, had widely varied plans in scope and character, and were states with very different hazard and threat profiles.

Evaluating these four EOPs provides great comparison and contrast and an example of how different and nuanced the terms are from one state to the next. One foundational aspect about the comparison of these documents is in the authority for command and control that they respectively give to the EOCs. Additionally, the continued lack of definition for emergency management and emergency managers is particularly interesting. Only vague references to emergency managers appeared specifically in any of these documents, and no reference at all in some.

3.   Local Government Level Plans, Policies, and Regulations

The proverbial rubber meets the road in local government emergency management. Many federal documents highlight the fact that emergency management happens at the local level. Interestingly, the local level is where the majority of discrepancies between documents and plans happen and where lack of continuity and inconsistency amongst emergency management paradigms seems to have the most prevalence. Even amongst neighboring jurisdictions, the major policy, doctrine, and plan discrepancies might hinder effective integration and cooperation during regional events, and skew the expectations of emergency management stakeholders amongst the jurisdictions. As an example, three California Bay Area neighboring jurisdictions' emergency operations plans were evaluated: San Mateo County, San Francisco City/County, and Santa Clara County.

One key item to point out about all these local emergency operations plans is that they often describe what emergency management is, but not what emergency managers

are. While examining how emergency managers are defined in state legislature is not within the scope of this study's research, this issue remains an interesting observation. Furthermore, the disparity between the identified phases of emergency management and the roles and responsibilities that fall under the associated phases for emergency management is a major issue, especially in terms of a coordinated response. It also creates some significant differences in expectations of services provided and performance metrics from key stakeholders and organizational leadership. If one emergency management office is tasked with prevention and protection responsibilities and another is not, then that difference could potentially create some significant operational confusion and incompatibilities. When this issue persists in neighboring jurisdictions, as it does in these three, it can create major and obvious paradigm differences amongst emergency management practitioners as well.

4.   Emergency Management Federal Grant Guidance

When trying to get to the bottom of a difficult problem or issue, it is often recommended that people "follow the money." In emergency management, the money comes from a federal grant passed through the states down to the local level. This grant is called the emergency management performance grant (EMPG).

Given that "emergency management performance" is in the name of the grant, if the money (grant dollars) is followed to look for a definition of emergency management or to discern what it is emergency managers do, it might appear that they do everything. It seems that effective emergency management performance is synonymous with everything that falls under the national preparedness goal, inclusive of all its missions and capabilities. In addition, the fact that response equipment, cyber security equipment, and other detection equipment combined with the various national preparedness missions and capabilities may lead to the belief that emergency management includes the full spectrum of emergency response, support, coordination, command, and control. In this situation, following the money might not be the best method for discernment or inquiry.

5.   Professional Associations

The NFPA has created a document outlining standards for emergency management and business continuity programs titled "NFPA 1600: Standard on Disaster/Emergency Management and Business Continuity Programs," which defines disaster and emergency management synonymously as "the ongoing process to prevent, mitigate, prepare for, respond to, maintain continuity during, and to recover from, an incident that threatens life, property, operations, or the environment."[17] Interestingly, this document includes prevention but not protection in the definition. Meanwhile, the NFPA 1600 definition for incident management and incident management systems is more broad and overarching stating, "The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure and designed to aid in the management of resources during incidents."[18] Additionally, under the response section of NFPA 1600, a great effort is made to allow flexibility in the title of emergency management practitioners. It recognizes that the program coordinator for the emergency management program may hold the title emergency manager (in the public sector), business continuity manager (in the private sector), or emergency management program coordinator as examples.[19] It is stated, "the program coordinator shall be appointed by the entity's leadership and authorized to develop, implement, administer, evaluate, and maintain the program."[20] The list of assessment tool recommendations includes issues like budgets, records management, planning, risk assessments, impact analysis, resource needs analysis, performance objectives, plans specifically addressing prevention, mitigation, crisis communication and public information, warning notifications and communication, operations procedures, EOC

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[17] National Fire Protection Association, *NFPA 1600: Standard on Disaster/Emergency Management and Business Continuity Programs* (Quincy, MA: National Fire Protection Association, 2013), 5, http://www.nfpa.org/assets/files/AboutTheCodes/1600/1600-13-PDF.pdf.

[18] Ibid., 6.

[19] Ibid., 13.

[20] Ibid., 25.

procedures, an incident management system, and emergency operations/response plan, a training program, an exercise program, and program maintenance measures.[21]

IAEM is probably the most recognized professional organization of emergency management practitioners with over 9,000 worldwide members. IAEM is "dedicated to promoting the 'Principles of Emergency Management' and representing professionals whose goals are saving lives and protecting property and the environment during emergencies and disasters."[22] Their mission is to "serve its members by providing information, networking and professional opportunities, and to advance the emergency management profession."[23] Additionally, IAEM certifies emergency management practitioners through a process requiring a college education (not necessarily in the discipline of emergency management), a written test on basic emergency management conceptual familiarization, and proof of experience and career field contributions. IAEM created the certified emergency manager program to "raise and maintain professional standards for emergency managers."[24] In the late 1980s, FEMA awarded IAEM funds to produce a report on how to accomplish this test. A council of "subject matter experts" called the "professional standards advisory council" was established representing various disciplines and functions related to or considered "aspects" of emergency management (see Figure 1). The definition of professional benchmarks (accomplishments, certifications, trainings, experience, etc.) was deemed the most appropriate way to create professional standards, and then a certification program that documents their qualifications and their attainment of those benchmarks.

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[21] National Fire Protection Association, *NFPA 1600: Standard on Disaster/Emergency Management and Business Continuity Programs*, 25–38.

[22] "Global," accessed October 15, 2015, http://www.iaem.com/.

[23] Ibid.

[24] Ibid.

Advisory Council
American Public Works Association
American Society for Public
Administration
American Society of Professional
Emergency Planners
Emergency Management Institute
Federal Emergency Management Agency
International Association of Chiefs of
Police
International Association of Fire Chiefs
International City Management
Association
National Association of Counties
National Coordinating Council on
Emergency
Management (now IAEM)
National Emergency Management
Association
National Emergency Training Center
National Fire Protection Agency
National Governors Association
National League of Cities
National Lieutenant Governors
Association
The American Civil Defense Association
Thomas Edison State College
United States Conference of Mayors
University of North Texas

Figure 1. 1989–93 NCCEM Professional Standards.[25]

For four years in the early 1990s, IAEM gathered insight from professionals with all-hazards experience, from jurisdictions of every type and size, and from various sister disciplines. This discernment resulted in an analytical study of emergency management as a profession. The analytical study led to a list of knowledge, skills, and abilities (KSAs) that the council deemed needed to accomplish consistent job duties and vital

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[25] Source: "History of the AEM and CEM, Associate Emergency Manager and Certified Emergency Manager Program," accessed October 14, 2015, http://www.iaem.com/page.cfm?p=certification/history-of-cem.

tasks of emergency managers. IAEM's Professional Standards Advisory Council based the certification requirements on these KSAs.[26]

An important aspect of the IAEM certification is that they are certifying members as part of the professional body of emergency management, and not the discipline of emergency management. As mentioned previously, the members tasked with creating the certification came from several various disciplines relating to emergency management. Additionally, IAEM promotes the "principles of emergency management" as established through Emergency Management Institute (EMI) (discussed in more depth in the next section). These principles clearly state that they apply not to the discipline or individual attributes of an emergency manager, but to the profession of emergency management, a vital distinction.[27] Thus, the IAEM emergency management certification is inherently broad in scope and encompasses KSAs across a wide ranging field of practitioners who would not, through this certification process, become uniform in performance or individual practitioner capacity. Perhaps most interestingly, nowhere in the IAEM literature or certification process is a definition of what emergency managers are or what they do specifically; principles for the profession and prescribed requirements for being certified as an emergency management professional are defined, but what an emergency manager *is* or *does*, and certainly not how they do it, are not.

The National Emergency Management Association (NEMA) is a professional association made up of state emergency management directors and leadership. NEMA's focus is on national leadership, policy, and engagement regarding comprehensive emergency management. NEMA serves as an information and assistance resource for emergency management agencies and practitioners. Additionally, NEMA seeks to improve and create "strategic partnerships, innovative programs, and collaborative policy positions."[28]

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[26] "History of the AEM and CEM, Associate Emergency Manager and Certified Emergency Manager Program."

[27] "Emergency Management Principles," 2007, 1, http://training.fema.gov/EMIWeb/edu/emprinciples.asp.

[28] "What is NEMA?," accessed October 15, 2015, https://www.nemaweb.org/index.php/about/what-is-nema.

In the strategic plan, NEMA states that its purpose is, "To develop the partnerships and initiatives necessary to improve the nation's capabilities to protect the public through prevention, mitigation, preparedness, response, and recovery from all emergencies, disasters, and threats to our homeland."[29] It is an interesting reference to five phases of emergency management in which mitigation and prevention are divided into two phases. Interestingly, other places on their website reference only three or four phases, demonstrating a lack of consistency.[30] Once again, nowhere on NEMA's webpage or in their strategic plan do they define what emergency managers are or what they do.

Ultimately, these various professional organizations leave wanting the discerning mind searching to divine what emergency managers do specifically, or what the discipline of emergency management entails as opposed to the larger profession, or the difference between emergency management, crisis management, incident management, business continuity, or community preparedness. To paint the picture a little clearer, an analogy can be drawn to carpentry and building houses. NFPA states what components are in a finished house. IAEM certifies someone as competent to work on a construction site, while NEMA promotes house building and discusses houses at length. However, none of these organizations seem to be discerning between electricians, plumbers, roofers, contractors, construction managers, framing carpenters, and finish carpenters.

6.   Accreditation and Training Institutions

In 2007, FEMA's Emergency Management Higher Education Project, under guidance of FEMA's Emergency Management Institute (EMI), established a panel of practitioners and academics to develop basic foundational principles of emergency management. This project was endeavored upon because while numerous books, articles, and papers referred to "principles of emergency management," nowhere in any of the literature on the subject was a consensus reached on a definition of what these principles

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[29] "What is NEMA?."

[30] Ibid.

were specifically.[31] The panel came up with eight "principles of emergency management" to be used as a guide for the development of a doctrine of emergency management. These principles have been adopted by the major emergency management professional organizations, FEMA, and the EMI, as well as a number of other organizations.[32]

Neither EMI, which applies the principles of emergency management, nor EMAP (emergency management accreditation program), which accredits emergency management programs, seem to have a clear definition of what emergency managers do specifically. They make reference to the profession of emergency management, and the necessary components of a successful emergency management program, which are composed of efforts, capabilities, and programs across a wide array of disciplines, departments, and organizations. A lack of definition about the scope of authority, the specific actions, or the roles and responsibilities of the emergency manager still seems lacking.

7.   Academic and Practitioner Documents

Hogue and Bea perhaps said it best when they said, "Since the end of World War II, Congress and Presidents have debated, formulated, and revised administrative responsibilities for emergency management."[33] Several scholarly journals, academic papers, and practitioner articles discuss emergency management, crisis management, consequence management, incident management, business continuity, and community preparedness broadly and conceptually. For example, in 2007 (updated in 2008), Dr. Wayne Blanchard developed the 1,366 page "Guide to Emergency Management and Related Terms, Definitions, Concepts, Acronyms, Organizations, Programs, Guidance, Executive Orders & Legislation," which provides 25 emergency management definitions, 15 incident management definitions, 23 crisis definitions, and 20 crisis management

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[31] "Emergency Management Principles," 1.

[32] Ibid.

[33] Hogue and Bea, *Federal Emergency Management and Homeland Security Organization: Historical Developments and Legislative Options*, 4.

definitions.[34] It did not, however, stipulate which of the definitions was right, more accurate, or most appropriate. Very few academic or practitioner documents attempt to delineate or discern between these terms and concepts, and even fewer attempt to define the specific roles, responsibilities, authorities, or discipline differences inherent within each.

George Haddow, Jane Bullock, and Damon P. Coppola have written a comprehensive book titled *Introduction to Emergency Management* which, as of 2013, is now in its fifth edition.[35] These authors have over 100 years of combined experience in the profession of emergency management at all levels including senior FEMA positions. In their book, they state, "The definition of emergency management can be extremely broad and all encompassing. Unlike other, more structured disciplines, it has expanded and contracted in response to events, congressional styles, and leadership styles."[36] They continue to provide a "simple" definition of emergency management as, "a discipline that deals with risk and risk avoidance."[37] Then they add, "Risk represents a broad range of issues and includes an equally diverse set of players."[38] Additionally, in the forward for this book, a letter is written by James Lee Witt, the former director of FEMA, which describes emergency management as a discipline, and promotes a philosophy of risk reduction and community protection.[39] This description introduces the question of difference between risk managers and emergency managers. Lastly, in the introduction, Haddow, Bullock, and Coppola state that emergency management is a profession and an academic discipline.[40] However, the table of contents breaks emergency management in

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[34] Wayne B. Blanchard, *Guide to Emergency Management and Related Terms, Definitions, Concepts, Acronyms, Organizations, Programs, Guidance, Executive Orders, & Legislation* (Washington, DC: FEMA, Emergency Management Institute, 2008).

[35] George Haddow, Jane Bullock, and Damon P. Coppola, *Introduction to Emergency Management* (United Kingdom: Butterworth-Heinemann, 2013).

[36] Ibid., 1.

[37] Ibid., 2.

[38] Ibid.

[39] Ibid., forward.

[40] Ibid., xvii.

to five "disciplines," mitigation, communication, preparedness, response, and recovery.[41] Ultimately, while this book is a tremendous resource for understanding the profession of emergency management, it has many term inconsistencies and does little to discern the difference between the profession and the discipline of emergency management, or more specifically, what emergency manager's roles, authorities, and responsibilities are. It maintains a broad and all-encompassing perspective of the realm of emergency management.

Haddow, Bullock, and Coppola reference a 2009 Office of the Inspector General (OIG) (OIG-09-25) report and testimony given by Donald F. Kettl about whether FEMA should be in Department of Homeland Security (DHS), which states, "The well-recognized cycle of emergency management includes preparedness, response, recovery, and mitigation."[42] This statement is an interesting promotion of the four phases of emergency management. However, the report then continues to critique notions of a two-phase approach that would include crisis management and consequence management.[43] It then cites a Hart-Rudd Commission Report that states that a distinction between crises management and consequence management as two separate efforts is neither sustainable nor wise, as it creates a duplicative command structure which creates confusion and delay.[44] It finally states that if FEMA was removed from DHS, then DHS would lose preparedness and response capability.[45] It is interesting that recovery and mitigation are not listed as key functions that might be lost.

Perhaps one of the more intriguing excerpts of the OIG report is one in which the author cites an argument by Michael Chertoff (former Director of DHS) that:

> The core of the argument made about FEMA is that somehow FEMA's involved with consequence management, dealing with the response, and DHS, in other respects, is dealing with preventing or protecting against a

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[41] Haddow, Bullock, and Coppola, *Introduction to Emergency Management*.

[42] Office of Inspector General, *FEMA: In or Out?* (OIG-09-25) (Washington, DC: Department of Homeland Security, 2009), https://www.oig.dhs.gov/assets/Mgmt/OIG_09-25_Feb09.pdf.

[43] Ibid.

[44] Ibid.

[45] Ibid.

response, and that if these are different functions, that therefore they ought to be under different roofs, and I really beg to differ with that. I think that is a profound misunderstanding of how one plans and prepares and executes in the face of a possible emergency.[46]

Kettl further adds, "for local frontline first responders, there is no line between terrorist and nonterrorist hazards; first responders must focus on all-hazards-plus. The federal approach and structure should match the local approach. Separation would create deep fissures between national policy and the realities of local response."[47] This viewpoint seems to be flawed logic, however, since in every planning effort, various disciplines and organizations are always involved in representing various roles and responsibilities across all four phases of emergency management, and neither at the local level nor the federal level does it make sense to try and force all those disciplines, functions, organizations, etc., under the same departmental roof. Each organization, agency, entity, and discipline needs to think about how it prepares, responds, recovers, and mitigates within its distinct roles and responsibilities.

In an article making the case for emergency management as a profession, David T. Crews states, "In their primary and 'strategic' roles, emergency managers must analyze the threat to economic and population centers; determine the significance of that threat, gauge the potential scope of the threat (size and impact); provide threat frequency and provide a course of action (emergency operations plan) for governing bodies."[48] He does not state how it is to be accomplished, or whether emergency managers facilitate this process through the collaboration of various disciplines or through an autonomous approach. In other words, he does not explain whether the emergency managers are the *doers* or the *coordinators* and *facilitators*. He goes on to state, "Emergency managers are also required to tactically respond in support of the Emergency Operations Plan when circumstances dictate. They are often in charge of Emergency Operations Centers (EOCs)

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[46] *Remarks by Homeland Security Secretary Michael Chertoff at Johns Hopkins University, December 3, 2008*. As cited in: Office of Inspector General, *FEMA: In or Out?* (OIG-09-25) (Washington, DC: Department of Homeland Security, 2009), https://www.oig.dhs.gov/assets/Mgmt/OIG_09-25_Feb09.pdf.

[47] Office of Inspector General, *FEMA: In or Out?*.

[48] David T. Crews, "The Case for Emergency Management as a Profession," *Australian Journal of Emergency Management*, Sydney, Australia, 2001, http://www.em.gov.au/Documents/case_for_emer gency_management_as_a_profession.pdf.

with critical information and communications resources during large disasters and catastrophes."[49] Crews makes an interesting distinction between the strategic responsibilities and the tactical responsibilities that are not seen in many documents. He does state that emergency managers are in charge of EOCs, which is interesting and could probably be debated in many local jurisdictions where emergency managers simply coordinate activities in EOCs and have little to no authority.

In a 2007 empirical study on the changing roles and responsibilities of the local emergency manager, it is stated:

> Prior to 2002 emergency management staff spent the majority of their time on hazard preparedness projects but this time allocation shifted dramatically when a variety of federal homeland security grants became available to state and local governments. This shift in responsibilities may be a sign that domestic security concerns have supplanted the all-hazards approach to emergency management at the local level.[50]

Of course, it further states, "it may also be a product of the manner in which federal homeland security grants are administered and the dynamics of the intergovernmental structure of emergency management in the U.S."[51] Whether or not the activities of the local emergency manager have shifted is not as important as the appropriateness of the actions in regards to what the roles and responsibilities *should* be.

In the opening sentence of his article, "'Crisis' in the International Encyclopedia for Social Sciences," James A. Robinson states, "'Crisis' is a lay term in search of a scholarly meaning.'"[52] Patrick Lagadec, in his study, *Preventing Chaos in a Crisis, Strategies for Prevention, Control and Damage Limitation*, states, "the scholar must admit to the decision maker that he or she is struggling with the omnipresent yet ephemeral idea of crisis, a concept that seems more like a mirage than a scientific tool."[53]

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[49] Crews, "The Case for Emergency Management as a Profession."

[50] Steven D. Stehr, "The Changing Roles and Responsibilities of the Local Emergency Manager: An Empirical Study," *International Journal of Mass Emergencies and Disasters* 25, no. 1 (2007): 37–55, http://search.proquest.com/docview/61699429?accountid=12702.

[51] Ibid.

[52] Robinson, "Crisis," 510–514.

[53] Patrick Lagadec, *Preventing Chaos in a Crisis, Strategies for Prevention, Control and Damage Limitation*, trans., Jocelyn M. Phelps (Maidenhead/Berkshire, UK: McGraw-Hill, 1993).

He goes on to describe that analysts too are in distress on the matter "because the concepts are so vague, there is no clearly stated theory."[54] Additionally, (according to Lagadec) Wolf-Dieter Eberwein of the University of Bielefeld in Germany has called for a more disciplined use of the term crisis stating, "Concept formation in theory construction is basic because we thus fix, with the necessary precision, the meaning of the terms we wish to designate the phenomena we want to explain."[55]

In Lagadec's study, *Preventing Chaos in a Crisis, Strategies for Prevention, Control and Damage Limitation*, he states, "The issue of definitions probably creates the greatest discomfort in the face of the wealth of proposals."[56] He then outlines several definitions of crisis, most of which are organizational in nature, many of which are just symptom descriptions, and a couple sociological examples peppered in.[57] In the end, Lagadec proposes three primary factors for crisis: the tidal wave (*crisis = an emergency that overwhelms problem-solving resources*), disruption (*crisis = the system threatens to crumble*), and breakdown (*crisis = the familiar world threatens to collapse*).[58]

Lagadec's description of crisis helps to define what events, issues, and characteristics crisis managers seek to address and manage. However, if all the elements of Lagadec's definition must be met before something can be defined a crisis, then the definition begs the question, if the crisis can be managed, then is it in fact a crisis at all? Lagadec's study also further stresses the difficulty in trying to define crisis and crisis management.

Despite the gelatinous and somewhat ephemeral nature of defining the term and concept of crisis, several authors have concocted their own descriptions and definitions. One example from the book, *Coping with Crisis: The Management of Disasters, Riots*

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[54] Lagadec, *Preventing Chaos in a Crisis, Strategies for Prevention, Control and Damage Limitation*.

[55] Wolf-Dieter Eberwein, "Crisis Research, The State of the Art: A Western View," in *International Crises and Crisis Management. An East-West Symposium* (New York, London: Praeger Publishers, Sydney, Toronto, 1978), 126–142.

[56] Lagadec, *Preventing Chaos in a Crisis, Strategies for Prevention, Control and Damage Limitation*, 30.

[57] Ibid.

[58] Ibid., 40.

and Terrorism, defines crisis as, "a serious threat to the basic structures of the fundamental values and norms of a system, which under time pressure and highly uncertain circumstances necessitates making vital decisions."[59] This definition is also the basis for the book, *The Politics of Crisis Management* by Arjen Boin, Paul 't Hart, Eric Stern, and Bengt Sundelius.[60] Boin, 't Hart, Stern, and Sundelius consider three key components to the definition of crises: threat, uncertainty, and urgency.[61] The book continues to present crisis management as a highly conceptual process of sense making and decision making during any number of events. They admit that their definition of crises is an "academic shortcut on the way to understanding crisis management,"[62] and they claim to be "aware that the management of crisis may depend on the type of threat."[63] Additionally, they claim, "The Strategic—as opposed to the tactical or operational—challenges for leaders in dealing with various threats are essentially the same."[64] This claim relegates their definition of crisis management to the strategic realm and leaves people to wonder what the consistent operational and tactical methods of crisis management may be.

In the book, *Managing Crises: Responses to Large-Scale Emergencies*, Arnold Howitt and Herman Leonard posit two types of emergencies exist, routine and novel.[65] According to the book, crisis management must be accomplished in novel emergencies.[66] They further detail the characteristics of and competencies necessary for managing novel

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[59] Uriel Rosenthal, Michael T. Charles, and Paul 't Hart, *Coping with Crises: The Management of Disasters, Riots, and Terrorism* (Springfield, IL: Charles C Thomas Pub Ltd., 1989).

[60] Arjen Boin, *The Politics of Crisis Management: Public Leadership under Pressure* (Cambridge, UK: Cambridge University Press, 2005).

[61] Ibid.

[62] Ibid., 4.

[63] Ibid.

[64] Ibid.

[65] Arnold M. Howitt and Herman B. Leonard, ed., *Managing Crises: Responses to Large-scale Emergencies* (Washington, DC: CQ Press, 2009).

[66] Ibid.

events and crises and the differences between the competencies and characteristics necessary for routine emergencies.[67] They provide the following framework in Figure 2.

Characteristics	Response mode	
	Mode R (routine emergencies)	Mode C(Crises)
Situational Awareness and Expertise	High	Low, but openness to recognizing novelty is necessary
Decision Making	Rapid and recognition primed	Cognitively driven, analytic
Scripts	Comprehensive	Unavailable
Customization	Modest	Extensive
Skills Required	Well-defined, highly developed	Incompletely specified, but creativity and improvisational ability are important
Leadership	Trained, practiced, and selected for prior training and performance	Adaptive, comfortable sharing authority, skilled in eliciting ideas from the team, and innovative
Command Presence	Authority-based, directive	Muted, oriented toward collaboration in developing solutions; more hierarchical in execution
Organizational Structure	Hierarchical	Flattened for solution development; more hierarchical for design; hierarchical for execution
Execution	Aims for precision through repeated opportunities for application of routine practices	Must be fault-tolerant because solutions have been improvised and are thus not fully tested or practiced

Figure 2. Emergency Response Mode Characteristics.[68]

This framework certainly helps in crisis identification based on Howitt and Leonard's definition of the term. However, this description, and the concepts in the book, are more conceptual and strategic in regards to sense making and novelty identification. It seems to be primarily a cautionary tale about inflexibility in the face of chaos, uncertainty, and novelty. This literature did not do any favors in identifying exactly who crisis or emergency managers are, as well as their respective authorities or roles and responsibilities. In the study, "Crisis Management Competencies: The Case of Emergency Managers in the USA," Montgomery Van Wart and Naim Kapucu further elaborate on the difficulties in modern definitions of crisis and crisis management by stating:

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[67] Howitt and Leonard, ed., *Managing Crises: Responses to Large-scale Emergencies*.

[68] Source: Ibid., 620.

Some confusion is induced in this area because of different preferences in nomenclature between the private and public sectors. In the private sector, the term crisis management is often used very broadly to mean the prevention and response to all untoward events—regardless of severity, scope, anticipation, and so on… This is now sometimes included in expanded definitions of risk management and business continuity strategies.[69]

Van Wart and Kapucu, however, do a great job of bounding the domain of crisis management.[70] They provide the following diagram in Figure 3 as examples of change as a function of scope and speed.

	Slow to Moderate Speed of Change		Relatively Fast Change	
	Planned	Reactive or evolutionary	Planned	Reactive or forced
Limited Scope of Change	Reengineering	Ad hoc change	Problem solving	Crisis management
Major Scope of Change	Transformational change	Organization culture change	Restructuring	Imposed change

Figure 3. Change Event Characteristics and Types.[71]

Through the above chart and elaboration Van Wart and Kapucu do a great job of identifying that not all sudden threats to organizational status quo are actually crises, nor do they all require crisis management. Their identification of relatively fast reactive or forced change with a limited scope being where crisis management occurs helps to apply crises management and crises managers to more traditional organizational structures. Another important distinction they make is that crisis management "is related, but not identical, to emergency management, change management, and transformational leadership."[72] They define crisis management as:

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[69] Montgomery Van Wart and Naim Kapucu, "Crisis Management Competencies: The Case of Emergency Managers in the USA," *Public Management Review* 13, no. 4 (2011): 491.

[70] Ibid., 489–511.

[71] Source: Ibid., 495.

[72] Ibid., 491.

A special type of change management typified by surprise (or uncertainty in planning context) due to unexpectedness or size of an incident, short time frame, and criticality in terms of life-and-death consequences or organizational threat. Crisis refers to the organization being significantly damaged or being unable to respond coherently or effectively. When this occurs to an emergency management agency because of a very large event, it is usually called *disaster or catastrophe management*. While emergency management agencies rarely have sufficient resources to fully anticipate all catastrophes, good contingency planning as well as interagency exercises and coordination with political leaders can alleviate the severity of disasters enormously, or conversely if lacking, seem to make matters worse.[73]

The findings of Van Wart and Kapucu's study indicate that senior emergency managers in administrative leadership positions do not "abandon emergency management practices during crises, but rather adapt them selectively."[74] However, their definition of emergency managers and emergency management is somewhat muddled including a rather large category of practitioners and leaders. They define emergency management and disaster management synonymously as:

Avoiding and dealing with risks. At its best, it prevents or minimizes emergencies, and then routinely handles emergencies with plans, training, and resources when they do happen. This field involves many areas in the public sector, notably public safety departments, emergency management, flood control, etc. Because timely response in incidents, emergencies and disasters is critical, the routinization of response through training and drills provides much needed efficiency. Part of risk and emergency management is the development of *contingency plans* for when the system malfunctions, or for unusual-but-possible scenarios, in particular catastrophes.[75]

When comparing the two definitions, while Van Wart and Kapucu provide for crisis management and emergency management, a few interesting issues are presented. The first is that emergency managers are identified as being only one of several "areas" involved in emergency management.[76] It states that emergency management "handles

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[73] Van Wart and Kapucu, "Crisis Management Competencies: The Case of Emergency Managers in the USA," 496.

[74] Ibid.

[75] Ibid.

[76] Ibid.

emergencies with plans, training, and resources,"[77] but then does not state which "area" does which. Also, the fact that it describes emergency and disaster management synonymously but then specifically states, "Crisis refers to the organization being significantly damaged or being unable to respond coherently or effectively. When this occurs to an emergency management agency because of a very large event, it is usually called *disaster or catastrophe management*."[78] This statement leads to the belief that disaster management is different from emergency management, or that emergency management transforms into disaster management when the traditional emergency management capabilities are not sufficient. Furthermore, earlier in the document, they state:

> In the public sector, in which a significant portion of the agencies, personnel, and resources are devoted to this purpose, untoward events that are planned for are called emergencies and disasters, and therefore the effort to plan and respond to untoward events – natural and manmade – is called emergency management. Crisis and catastrophes have a special meaning, suggesting that the system has been overwhelmed or taken off guard and outside resources and the concomitant external coordination are necessary for effective response and recovery.[79]

Still, they had already said that when an emergency management structure is overwhelmed, it is called disaster management, not crisis management. This statement is not entirely accurate, however, since emergency management structures often activate to support emergency management structures in political sub-divisions that have been overwhelmed (counties supporting cities, for example). In other words, by Van Wart and Kapucu's definitions and logic, one jurisdiction's emergency might be a lower jurisdiction's disaster. Furthermore, it describes disaster and emergency management synonymously but then states that disaster management is what happens when emergency management is overwhelmed.[80] They cannot be synonymous if emergency management and crisis management are specifically identified as different, and the definition for crisis

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[77] Van Wart and Naim Kapucu, "Crisis Management Competencies: The Case of Emergency Managers in the USA," 496.

[78] Ibid.

[79] Ibid., 491.

[80] Ibid., 496.

management is when disaster management occurs. These definitions and descriptions also seem to go back and forth between inferences to a process, a system, or an organization of emergency management.

While Van Wart and Kapucu "seek to clarify…distinct concepts that are related but often blurred,"[81] it would seem they still leave some related concepts somewhat blurred. While they do highlight some key competency differences between emergency managers and crisis managers, they do little to define the specific roles, responsibilities, or authorities of these differing positions. They do provide great value in bounding the domain of crises management activities, as well as in demonstrating that crisis management is not solely the activity or realm of the public sector, but also necessary in the private sector.

Christoph Roux-Dufort argues in his article, "Is Crisis Management (Only) a Management of Exceptions?," that crisis management has heretofore limited itself to the analysis of exceptional situations, and in doing so, has isolated itself from mainstream organizational theory.[82] He cautions that should the study of crises not "go beyond the sphere of exception management" that it will continue to "remain an isolated discipline with little room for innovation and progress."[83] The study proposes seeing crises as a process of incubation for organizational change and transformation through reevaluation of three suppositional factors: reassigning the triggering point, seeing crises as temporal events, thus removing common perceptions of and associations with urgency, and seeing a crisis as a surge of meaning as opposed to a collapse of meaning, as is the commonly held perspective.[84] He blames the isolation of crisis management as a discipline on four primary factors: crisis being used as an alibi, crisis being poorly defined, crisis being affiliated entirely with accidents, and (somewhat in summary of the previous three) crisis

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[81] Van Wart and Naim Kapucu, "Crisis Management Competencies: The Case of Emergency Managers in the USA," 508.

[82] Christophe Roux-Dufort, "Is Crisis Management (Only) a Management of Exceptions?," *Journal of Contingencies and Crisis Management* 15, no. 2 (2007): 105–114, doi:10.1111/j.1468-5973.2007.00507.x.

[83] Ibid.

[84] Ibid.

becoming the science of the exceptional.[85] He proposes a conceptual paradigm change away from seeing crisis as an event but instead to see it as a process.[86] Perhaps most controversial, he proposes that through a processual perspective of crisis, individuals quickly see that victims of crisis are in fact culprits, simply speeding up a pre-existing dynamic.[87] Furthermore, while praising the relevance of their work, he accuses Patrick Lagadec and Urial Rosenthal (referenced earlier in this literature review section) of substitution and semantic escalation by interchanging the terms rupture and inconceivability with crisis, thus "widening the distance between crises management and preoccupation of managers and organization theorists."[88]

Roux-Dufort provides a surprisingly counter-culture perspective on crisis and crisis management. It serves as an interesting exercise to see crisis as a process instead of an event. It demonstrates value in defining crisis and crisis management in such a way as to bring organizational theory and crisis theory in to greater harmony. More than anything, this article reinforces the fact that crisis and crisis management (and crisis managers more specifically) lack clear definition and specificity.

Ultimately, the academic and practitioner literature, while all tremendous and relevant, only serves to muddy the waters in regards to the specific definition and delineation of the roles, responsibilities, and authorities of emergency managers, crisis managers, incident managers, incident responders, risk managers, business continuity specialists, and preparedness coordinators. All the literature reviewed, as well as many other sources reviewed and not included in this thesis, seem to confuse terms, use definitions interchangeably, obfuscate specificity, and purposely broaden domains and relevance. While many would seek to define competencies for professionals with these various titles, it seems premature without first defining the appropriate specific mission space, roles, responsibilities, and authorities for each. Furthermore, defining specifically what aspects of each of these are disciplines or professions seems to be unclear.

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[85] Roux-Dufort, "Is Crisis Management (Only) a Management of Exceptions?," 105–114.

[86] Ibid.

[87] Ibid.

[88] Ibid.

Regarding crisis and crisis management, the common preeminent perspectives seem to place the responsibility of crisis management on the person or organization that the crisis is happening to, like people in the middle of a psychological breakdown acting as their own therapist. This perspective seems like a foolhardy approach to define or operate as a crisis manager, and actually creates a bit of a paradox, as many definitions of crisis have elements describing them as unmanageable. It seems more appropriate to view crisis managers as an outside force who attempt to stabilize, marginalize, or isolate a crisis from the outside, especially if that external crisis stands as a threat to their own organization or capability.

C.   LITERATURE REVIEW CONCLUSIONS

After reviewing the extent federal, state, and local doctrine, grants guidance, professional association guidance, accreditation and training institution guidance, and the academic and practitioner literature available on the topics of emergency management, crisis management, incident management, incident response, community preparedness, business continuity, and risk management, much is left unclear and in obfuscation. However, several findings and areas of needed definition and exploration were identified. The findings of this literature review fall into the following seven topics.

- Much is written about what emergency management does, but little about what emergency management does not do. The term emergency management is often broadly used as a catch-all to define everything and everyone having anything to do with incident management, and these two terms are often used interchangeably. It is never clear if emergency management is part of incident management, or crisis management; nor is it clear if it is the other way around, or some other combination. Additionally, it seems to be of great confusion how much emergency management emergency managers specifically are responsible for, or have authority over. Once again, emergency managers are often identified as having great scope and responsibility, where other times, emergency managers seem to be left out of emergency management all together where emergency management is seen as a process effectively carried out by various disciplines and agencies without emergency manager involvement. Much clarity and domain bounding is needed in every category of this literature review.

- The phases of emergency management seem to be under suppositional debate, if not overt debate. Whether there are two phases of emergency

management (crisis management, consequence management), three phases (preparedness, response, recovery), four phases (preparedness, response, recovery, mitigation), five phases (prevention, preparedness, response, recovery, mitigation), or six phases (protection, prevention, preparedness, response, recovery, mitigation) seems to be under debate. While four phases seems to be the predominate list, several documents passively identify and presuppose or argue for each of the options previously listed. Definitive clarity and is needed in every category of the literature review.

- Specific differences and delineation between the various roles, responsibilities, authorities, mission spaces, and jurisdictions of incident responders, incident managers, incident commanders, crisis managers, emergency managers, preparedness coordinators, risk managers, mitigation specialists, and business continuity specialists is not found uniformly or disparately in any of the documents in this literature review.

- DOCs are not addressed well enough in the most common national incident management guiding doctrine, which may be inadvertently propagating a conceptual gap between tactical and support mechanisms and allowing for inappropriate mission creep during incident management operations.

- Doctrine is lacking in outlining the differences between strategic, operational, and tactical incident management activities and what functions have the lead on which.

- Appropriate KSAs are extremely difficult to define for the various emergency and crisis management variants due to the aforementioned findings, thus making effective performance metrics, training, and education very difficult to establish in the realm of incident management.

- The current incident management doctrine and foundational guidance is composed of not one but various doctrinal sources, created by various disparate entities and agencies seemingly not in complete cooperation, with different paradigm influences, with disjointed or conflicting language, without a clearly stated comprehensive unifying guiding set of principles for doctrine creation, and is not comprehensive as it does not seem to address all the potential aspects, concepts, or topics of the incident management enterprise or activities.

IV. PROPOSED INCIDENT MANAGEMENT CONCEPTUAL MODEL

> Not until terms and concepts have been clearly defined can one hope to make any progress in examining the question clearly and simply and expect the reader to share one's views.[89]

To better understand incident management and where individuals fit within the incident management enterprise, it is necessary to define the various components of incident management, and describe the various interrelated parts, players, places, and concepts that make up incident management, its process, and the enterprise at large. Additionally, when endeavoring to discern incident management intuitively and comprehensively, it is perhaps most advisable to establish a set of guiding higher order incident management truths, or principles, as a foundation or springboard to be applied comprehensively to the entire model. After conducting the in-depth literature review and analysis, and practitioner interviews, it became apparent that a consistent set of higher order incident management principles, or truths, were not applied consistently or comprehensively in the existing, seemingly disparate, foundational sources of incident management doctrine. The literature review and practitioner interviews, when reviewed by the author of this study, brought to light a number of areas or categories that should be addressed for an incident management model to be consistent and comprehensive, and maintain maximum utility for the practitioner. The following short list of guiding principles, or truths, informs the various components and aspects of a newly proposed comprehensive incident management conceptual model:

- A model should be designed with maximum capacity, ideal resources, and ideal practitioner competency in mind. A model should serve as a benchmark, standard, and goal, and as such, should be designed to be the ideal end product.

- Universal application should be the cornerstone of an incident management model. To ensure maximum adoption, consistent familiarization, consistent integration and application, and consistent

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[89] Carl Von Clausewitz, *On War* (Princeton, NJ: Princeton University Press, 1976), 132.

paradigm framing, the model should be developed with consistency and universality from the lowest to the highest levels.

- Clearly bounded mission spaces, roles, responsibilities, and authorities need to be defined to reduce application friction, mission creep, and implementation conflict.

- The model should remain as simple as possible and avoid cumbersome structures and options to ensure the feasibility of implementation and consistency of adoption amongst all practitioners.

- The model should avoid esoteric concepts and should focus on pragmatism, intuitiveness, and overall simplicity.

- The model should be modular and component driven so that elements can be added or removed where necessary and unnecessary or redundant aspects are reduced or eliminated in the interest of efficiency and efficacy.

- Incidents are managed at the lowest possible level and all incident management components serve to return things to their lowest possible levels.

- A comprehensive incident management model defines and describes the event types, the practitioners, the processes, the activities, the competencies, the mission spaces, and the organizational structures inherent to effective incident management.

- The components of the model should be described and their purpose and logic justified ensuring the practitioner has an understanding not just of the "what," but also of the "why."

- To ensure maximum conceptual saturation, the incident management model should contain visual diagrams to assist the practitioner in concept comprehension to help ensure consistent application and understanding of the model across the entire incident management enterprise.

The following topics present a new, more holistic, pragmatic conceptual framework and model for understanding and defining the relationships and concepts of the major incident management components applying the higher order incident management principles previously described. This conceptual model is designed to be a linear inductive Socratic exploration where topics are introduced and broadly discussed, then the individual components of that topic are given a proposed definition, and a justification for the definition is provided. Each topic is a layer building upon the understanding and logic of the last. Amongst the layers of topics are a number of

graphical models that help the reader conceptualize and understand the topics. At the end, once all the necessary topics have been explored, a number of fictional examples are provided to illustrate the implementation of this model followed by several real-world case examples.

A.   STIMULUS EVENT TYPES

As presented in Figure 4, the stimulus event types discussed are catastrophe, disaster, emergency, state-of-emergency, incident, crisis, threat, and specific active threat.
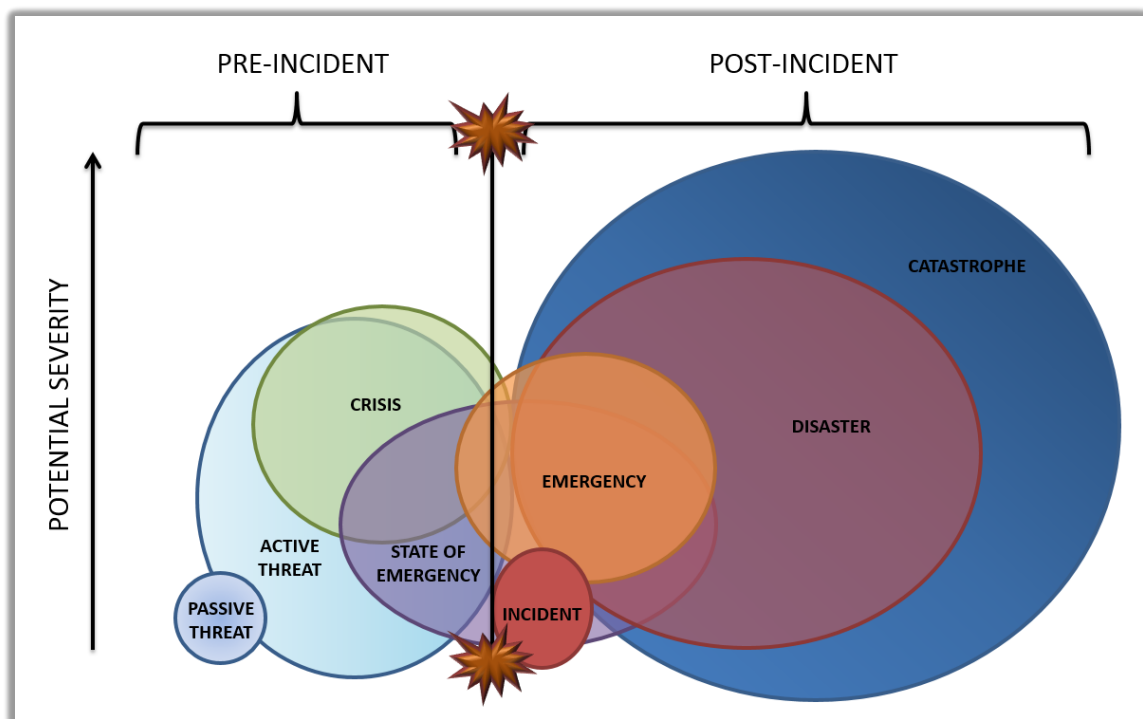
This figure is a conceptual diagram of the various incident management event and stimulus types. It applies to the entire stimulus event type section. Notice specifically where events overlap, and their relation to the moment an incident takes place. An incident occurring does not always dictate or preclude or exclude the concurrent existence of another particular state of being, stimulus type, or event classification.

Figure 4.   Incident Management Event Types

Introduction: It can be extremely difficult to discern between the aforementioned terms if looking to existing doctrine and literature. As an example, *The National Preparedness Goal* states:

Communities regularly deal with emergencies and disasters that have fewer impacts than those considered to be the greatest risk to the Nation. In addition, communities may have resident capacities to deal with the public's needs locally for many of these lesser incidents. Catastrophic incidents will require a much broader set of atypical partners to accomplish the capability targets for the Response core capabilities than those routinely addressed.[90]

This document never states what differentiates a disaster or emergency from a "lesser incident" or a "catastrophic incident." Furthermore, differences occur between proclaimed local emergencies, proclaimed states of emergency, and declared disasters.[91] These incidents are each tied to levels of political subdivision and financial reimbursement eligibility. Meanwhile, the definition of a crisis is a major topic of academic debate that has very little specific meaning or definition in current incident management doctrine. Crisis and threat are often loosely affiliated with law enforcement and security activities in most incident management doctrine.

As demonstrated in the literature review and analysis, various inconsistent and interchangeable uses of the aforementioned terms exist. This persistent trend may cause confusion regarding thresholds of various incident management activities amongst various disciplines and practitioners. While these terms are fairly relative when used colloquially or figuratively, in relation to incident management, it is an area that needs term definition and consistency.

The following definitions are proposed.

1. Catastrophe

Catastrophes are a series of cascading human-caused events or incidents, the adverse effects or consequences of which are potentially, seemingly, or definitively irreversible. A catastrophe may be caused by a disaster, or may be the cause of a disaster.

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[90] Michael Chertoff, *National Preparedness Goal* (Washington, DC: Department of Homeland Security (DHS), 2011, 11, http://www.fema.gov/media-library-data/20130726-1828-25045-9470/national_preparedness_goal_2011.pdf.

[91] Los Angeles County Operational Area, *Emergency Proclamations and Disaster Declarations* (Los Angeles, CA: Disaster Management Area Coordinators and Los Angeles County Office of Emergency Management, 2012), http://www.smgov.net/departments/oem/sems/proclamations-and-declarations/emergency-proclamations-and-declaration-guide.pdf.

A catastrophe may be an emergency or cause a state of emergency, or, an emergency or state of emergency may cause a catastrophe.

Justification: The radiological release and contamination of an area due to a tsunami or earthquake exceeding the safety design parameters, coupled with ineffective redundancy measures, might be an example of a catastrophe caused by a disaster. Run away greenhouse effects caused by human influence creating rising sea levels, increased hurricanes, or severe coastal flooding might be an example of a catastrophe causing disasters. An oil spill in a local area caused by a series of safety failures responded to with local resources that adversely significantly alter a local eco-system causing the extinction of a species of animal or plant might be an example of a catastrophe, which is an incident but not an emergency (as local resources were not overwhelmed). A massive oil spill causing significant environmental harm, destruction, death, or extinction that overwhelms local response agencies and assets requiring outside emergency response resources might be an example of a catastrophe causing an emergency or state of emergency. Catastrophes may also be caused by or cause crises. The primary component of a catastrophe is a series of events or incidents with irreversible adverse effects that are human caused or that could have been mitigated by human actions and were not, or that exceeded several levels of human design or engineering factors. Catastrophes may be environmental, economic, technological, etc.

2. Disaster

A disaster is any natural event or emergency, or (regardless of cause) any fire, flood, or explosion that warrants major federal or international assistance.

Justification: The primary component of a disaster is its inherent requirement for federal level (or international) assistance. This aspect denotes a level of severity appropriate for the title. Disasters are often devastating (financially, environmentally, or mortally) not just to the local area of impact, but potentially also to the state, nation, or nations. When these events occur, they carry a level of seriousness that should only be titled appropriately as a disaster.

3. Emergency

An emergency is an incident or crisis posing a threat to the safety of persons, property, or the environment that exceeds an organization's resources or capability.

Justification: The primary component of an emergency is its overwhelming nature. By the very nature of the word "emergency," it becomes non-routine. The simple existence of an incident or crisis does not inherently denote an emergency; many incidents or crises could be considered routine. For example, a car accident or structure fire in a jurisdiction is an incident that does not likely overwhelm local resources or capabilities and could be considered routine. Equally, a crisis like a labor strike or non-crisis event like changing economic factors that threaten the local tax base and affect long-term organizational change do not necessarily overwhelm local resources or denote an emergency or state of emergency. An emergency results when local resources are not adequate to respond to life safety, property damage, or environmental damage issues.

4. State of Emergency

A state of emergency is an eminent impending incident or crisis posing a threat to the safety of persons, property, or the environment likely to exceed resources or capability of the proclaiming political jurisdiction, or, the existence of an active incident that threatens a population and the adequacy of local resources is unknown.

Justification: A state of emergency may exist when it is known that an impending threat will definitely overwhelm local resources or capabilities, or, if it is unknown whether local resources are enough to manage an existing incident. For example, if a wildfire is threatening a local population and it is unclear whether the resources that have been applied to the wildfire response are enough to contain it, then a state of emergency may be in effect for that local population. Or, if an active shooter event is occurring and it is unknown how many malicious actors are involved or the scope of their capabilities, and it is unknown if local response resources will be adequate to stop the threat, then a state of emergency may be in effect.

5.   Incident

An incident is the physical manifestation of a crisis, event, or occurrence that has adversely affected life, property, or the environment requiring the response of at least one individual.

Justification: An incident may be a relatively small or routine event, as small as a person cutting a finger, or as large as the crash of the Titanic. One or several incidents may be involved in an emergency, disaster, or catastrophe. The boundaries of an incident can be recognized by the directly correlated and active negative impacts or consequences related to an event at a general location that are addressed in a coordinated manner on-scene.

6.   Crisis

A crisis is a phenomenon, event, active threat, or trend, with or without a specific location posing seemingly inevitable harm to life, property, environment, organizational performance, reputation, or way of life reasonably or ethically necessitating a deliberate urgent intervention. (A crisis may be local, national, or global)

Justification: Perhaps the most controversial and difficult definition, a crisis is described by many definitions. Unfortunately none are very satisfying in relation to incident management (see literature review). Little consensus has been reached for what a crisis means specifically. It seems that if an incident has not yet occurred, but a known imminent future incident or potential incident, preventable incident caused by persistent or systemic conditions, or threat to an organizational structure, state of seemingly harmonious stability, necessary symbiotic dependency, or cultural paradigm presents itself, then the knowledge of the threat or hazard's existence and its consequences is the crisis or state of crisis, or an exigency (threatening operation, reputation, or existence) requiring urgent organizational attention. This definition alludes to moral or value imperative, for better or worse, but could also describe operational, economic, or other types of imperative responses.

7.   Threat

A threat is a communicated, demonstrated, or inferred intent and potential capability to harm life, property, environment, organizational performance, or way of life.

Justification: Threat denotes intent, and thus, is inherently related to human factors. The general state of being under threat from an actor or actors simply denotes the existence of malicious intent with potential capability and generally communicated targets without knowledge of an active attempt to execute.

8.   Specific Active Threat

A specific active threat is a known communicated, demonstrated, or inferred timely intent and capability to harm life, property, environment, organizational performance, or way of life with a specified or unspecified target.

Justification: Threat denotes intent, and thus, is inherently related to human factors. When intelligence indicates actors that currently possess malicious intent to cause damage, harm, or disruption to something that they feasibly have access to, in fact, have the capabilities or tools to act on that threat, then specific active protective and preventative measures must be taken. This threat is different from a non-specific or a non-active threat that is the general state of being under threat from an actor or actors with no specifically communicated target or unknown capabilities.

B.   PRACTITIONERS

Practitioners include emergency responders, crisis responders, incident responders, incident commanders, incident managers, crisis managers, crisis leaders, emergency managers, emergency management functional representatives, risk managers, disaster coordinators, emergency planners, preparedness specialists, and business continuity specialists, as shown in Figures 5 and 6. These figures are conceptual diagrams of the various incident management practitioner types and apply to the entire practitioner section, but are also used in later sections to illustrate other incident management components. Notice specifically the delineation between tactical, operational, and strategic mission focuses amongst the varying mission areas, and the applicable

practitioners. Additionally, notice the delineation between command and direction in Figure 5.

IM Practitioners	Guiding Doctrine	IM Levels	Mission Focus	Control Method	Primary Activities
Politicians	Law/Code/ Ordinances	Elected	Political	Leadership	Financing/Public Support/Laws
Executives	Departmental Policies	PAG	Policy	Advisory	Codifying Strategic Methods
Emergency Managers	NIMS/EOP	EMC	Strategic	Coordination	Continuity of Govt. & Strategic Coordination
Crisis Managers	Departmental Procedures	DOCs/Dispatch	Operational	Direction	Moving Resources Around
Incident Responders	ICS	INCIDENT	Tactical	Command	Resources Fighting the Fight

Figure 5.   Incident Management Levels.
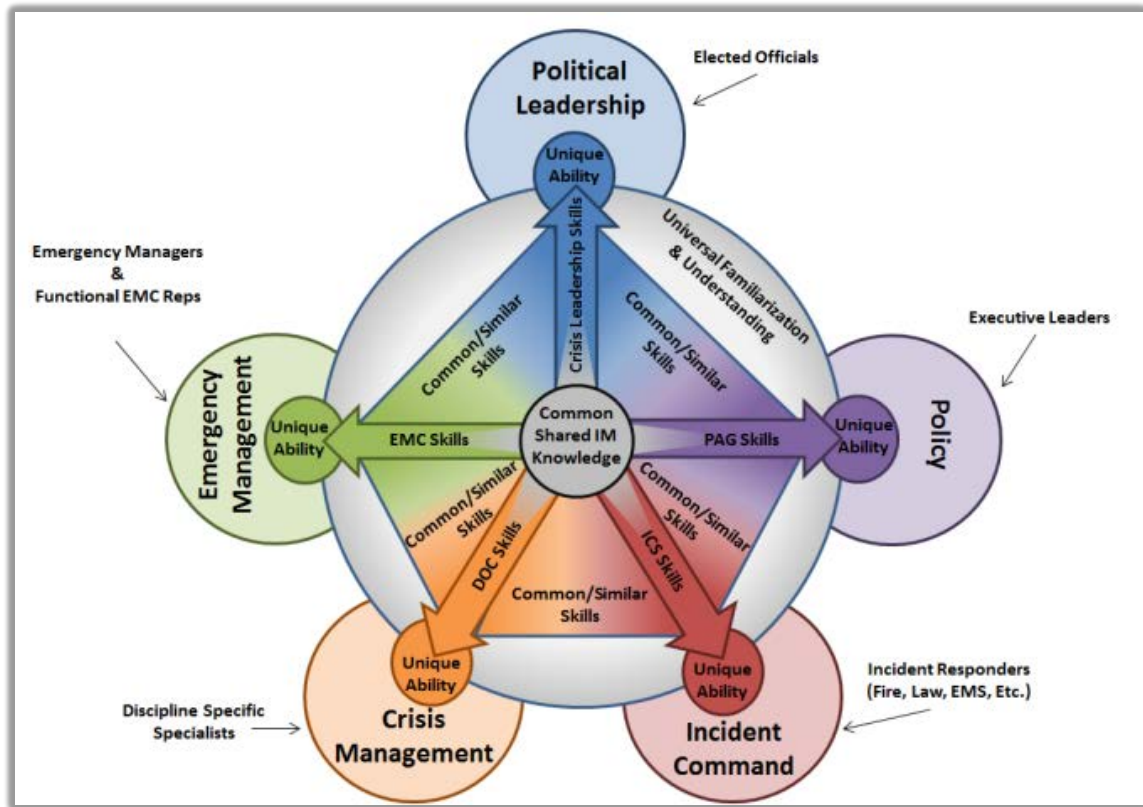
Figure 6. Incident Management Knowledge, Skills and Abilities.

Introduction: Within the extent incident management literature, as demonstrated within the literature review, inconsistency occurs in the definitions, roles and responsibilities, and general descriptions of the various incident management practitioners or actors necessary for effective comprehensive incident management. Exploring and delineating key aspects amongst these various actors is key in understanding how someone fits in to the sometimes complex and dynamic incident management universe and structure. It also helps to establish a metric and expectation for success and performance. It would be foolhardy and inappropriate, as well as unfair to expect any one actor or practitioner to try and fulfill all or even several of the various incident management roles during a large complex incident. Furthermore, without clearly defined expectations, it can be very difficult to determine how successful someone is. It also helps to ensure that unnecessarily redundant, conflicting, and overlapping activities are not occurring, or being expected by outside stakeholders. It also helps to reduce

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mission-creep amongst the various disciplines and practitioners within the incident management spectrum of actors. This is not to say, even after a definition has been created, that practitioners never fill more than one role. A person may be acting as an emergency manager one day and as a crisis manager the next depending on needs, qualifications, and clearly defined expectations. The following section discusses all the conceivably differing primary incident management practitioner types, their roles and responsibilities, and how they fit in to the incident management universe.

The following definitions are proposed.

1.   Emergency Responder

An emergency may be any individuals who, in their regular course and scope of duties, may be dispatched to the scene of an incident to address *imminent* life safety issues.

Justification: This definition is particularly difficult, as the term "responder" is often solely associated with sworn and badged public safety personnel. This proposed definition addresses life safety specifically because if it were to incorporate life, property, environment, and the economy then, taken literally, any plumber responding to a call for service for a residential water leak, which is a small incident in its own right, would be considered an emergency responder. That definition would be too broad and unsatisfying. However, the proposed definition would include anyone, sworn or unsworn, badged or non-badged, dispatched to the scene of an incident to address immediate life safety issues.

2.   Crisis Responder

Crisis responders may be any individuals who, in their regular course and scope of duties, may be dispatched to the field *prior to* an impending or imminent incident to ensure life safety or prevent, protect, or mitigate property, environment, or economic issues.

Justification: This definition is perhaps the least explored "responder" one due to the nebulous and broad use of the term "crisis" in the extent incident management

literature. The proposed definition encompasses all personnel dispatched in the field to address issues that may arise due to a known impending event or threat. (See also the definition of "crisis" in the "event types" section of this proposed lexicon) Examples would be law enforcement officers dispatched to the scene of a potential crime to prevent people with malicious intent from executing their plans, or to protect a known or suspected target from being exposed. It also applies to utility workers shutting off, hardening, or protecting infrastructure prior to an impending storm or other known event that poses a threat to life, property, environment, or economy. It also may apply to anyone prepositioning assets or supplies prior to a known impending event.

3. Incident Responder

Incident responders may be any individuals who, in their regular course and scope of duties, may be dispatched to the scene of an incident to address potential life safety issues, or prevent, protect, or mitigate life safety, property, environment, or economic issues.

Justification: This definition encompasses everyone in the incident management spectrum dispatched to the field. It includes sworn and unsworn, badged and non-badged, and all other response personnel in the field. Incident response is the umbrella that captures both emergency, crisis, and support personnel in the field in response to an incident that has occurred.

4. Incident Commander

An incident commander is the person responsible for all aspects of incident response at the scene of an incident, which includes the development of incident objectives, the management of incident operations, the application of resources, and the responsibility for the safety and actions of all persons involved.

Justification: The key to this definition is "at the scene." If an individual is not at the incident command post and not directing the responders on the scene then that person is not the incident commander. Being on the scene is inherent to the incident commander as that individual is responsible for the safety and actions of those in the field, which

cannot be adequately accomplished from a remote location. (Exceptions may be considered when the application of technology allowing personnel to direct real-time tactical field response from a distance is utilized. More research should be done on this topic.) Additionally, it should be noted that an incident commander's control mechanism is "command," primarily due to the life safety and tactical responsibilities inherent to the position.

5.   Incident Manager

Incident managers are any individual who, in their regular course and scope of duties, are responsible for managing an incident through command activities, dispatch activities, or support activities. They are also responsible during all three phases of the incident management process.

Justification: The incident management universe is composed of practitioners in various disciplines who all have some pivotal role in incident management; some during all types of incidents, and others during specific types of incidents. However, simply participating in one phase of the incident management process (preparedness, incident response, and consequence management) does not make a practitioner an incident manager. For example, just because a practitioner teaches preparedness courses to local CERT teams, or does technical analyst or consulting work on a mitigation plan, or runs a local assistance center during the consequence management phase, does not mean that said practitioner is an incident manager. However, those functional or subject matter experts do have key roles and should not be discounted.

6.   Crisis Manager

Crisis managers are any people who, in their regular course and scope of duties, are responsible for managing a specific incident response or incident support department, function, or discipline, who have direct authority and operational control or direction over incident response or support assets or personnel that address imminent life safety issues, or prevent, protect, or mitigate property, environment, or economic issues, whose actions may include quickly developing functional, organizational objectives, managing all dispatch and functional operations outside of the incident scene, the prioritization of

resources to various incidents or threats, as well as being responsible for the posturing of assets and of all persons in that function or discipline outside of the scene and not otherwise under the incident commander's purview. These peoples' control mechanism is directive in nature since they have the organizational and positional authority to direct agency and organizational resources, but the tactical and life safety issues do not require a command style control mechanism; it is asset posture oriented.

Justification: Assets have to get to the scene before the incident commander takes authority over them. Also, assets must be brokered amongst various incidents. Additionally, if an incident has not yet occurred, but a known future incident, preventable incident, potentially imminent incident, or threat is present, someone has to manage the objectives, resources, and tactics for the various functions or disciplines involved in the response to these potential crises (See also the definition of "crisis" in the "event types" section of this proposed lexicon). Lastly, support resources must be mobilized to manage activities outside of the scene. These activities are examples for which crisis managers are responsible. These examples of crisis managers might include people working in DOCs managing the deployment of additional ambulances or fire engines to the incident, shelter managers to various shelters, heavy equipment to debris basins prior to a large storm, law enforcement officers to potential additional targets after a terrorist attack, or vaccination supplies in preparation for a spreading pandemic. Crisis managers may also work in dispatch centers, emergency operations centers, or area command posts.

7.   Crisis Leader

A crisis leader is any senior executive or elected official responsible for to providing organizational leadership through representation, messaging, advocacy mobilization, fund raising, law creation, or other similar role internal or external to the organization during times of incidents or larger events, where those actions mitigate potential or imminent negative ramifications on the organization, the organization's reputation, or the organization's incident management efforts caused by unmitigated negative stakeholder sentiment or perception.

Justification: During disasters, it is common to have the organization come under significant public or stakeholder scrutiny. That scrutiny, unchallenged, addressed, or answered may cause long-term harm to the credibility of the larger organization. It may also create unnecessary friction or difficulty for the various incident management practitioners involved (for example, angry citizens rioting and harming emergency responders, where strong crisis leadership might have limited, reduced, or eliminated the number of rioters). Strong effective crisis leadership can only serve to support and improve the efficacy of the entire incident management structure, and is thusly, a key component of effective incident management. They are given the term "crisis" in the title because they are mitigating additional incidents or impacts to the organization that have yet to occur. Furthermore, an incident may not necessarily threaten the parent organization, but the stakeholder sentiment may specifically threaten the organization at large, and crisis leadership is specifically addressing that threat; thus, the term "crisis." It should be noted that a crisis leader's control mechanism is primarily policy setting and political in nature. Crisis leaders are often senior level executives and elected officials.

8. Emergency Manager

Emergency managers are individuals with expertise in the implementation of the necessary communication and operational framework necessary for effective strategic collaboration of senior level subject matter experts who represent various incident management functions or disciplines during all phases of incident management towards the goal of successful disaster support coordination.

Justification: During the incident response phase, the actions and activities that take place at the scene of the incident are classified as tactical incident command. The actions that occur in functional DOCs are classified as operational crisis management. The actions that take place at the Emergency Management Center (EMC) are classified as strategic disaster support coordination. Those with multi-discipline collaboration responsibility at the scene of the incident are considered incident commanders and are part of the incident command system. Crisis managers in DOCs direct the operational support to the incident of single or related functions or disciplines. EMCs are the location

where high-level officials and subject matter experts from a vast array of functions collaborate strategically, and are the mechanism by which emergency managers facilitate successful disaster support coordination. During the consequence management phase, emergency managers are responsible for facilitating the collaboration between the various high-level officials and subject matter experts representing the various recovery functions, while crisis managers and incident commanders are more focused on demobilization and deactivation. During the preparedness phase, incident command practitioners focus on increasing their functional response capability, crisis managers focus on their function-specific operational preparedness and capacity, and emergency managers focus on collaborative multi-function or discipline planning and preparedness. Incident command practitioners focus on function specific competencies, crisis management practitioners focus on function specific and coordination (within their function) and analysis competencies, and emergency managers focus not on function or discipline specific knowledge, skills, and abilities, but instead on coordination skills, and the KSAs specifically associated with the collaborative incident management disaster support coordination communication and operations frameworks. An emergency manager's control mechanism is coordination since emergency managers are not often granted authority over the staff and resources in the EMC. They control through positive coercion.

9. Emergency Management Functional Representative

Emergency management functional representatives are individuals possessing senior level expertise and authority in a single incident management function or discipline assigned to the EMC to represent their discipline, function, and department in collaborative strategic coordination and support activities.

Justification: An EMC is only as successful as the practitioners who represent the various functions needed to be collaboratively coordinated. Just as a conductor and no musicians would make a poor orchestra, an emergency manager with no emergency management functional representatives would make a poor EMC. Emergency managers simply apply a collaboration, communication, and coordination framework to the various

disparate functions and disciplines represented in an EMC. Emergency management functional representatives can best be described as the gears in the EMC machine, where emergency managers are the grease in the gears that allows them to function smoothly without friction.

10.   Risk Manager

A risk manager is an individual within a single discipline or function or larger conglomerate organization who, during the preparedness phase of incident management, determines the acceptable level of risk based on the gap between preparedness and vulnerabilities, as determined by hazard, threat, and capability assessments.

Justification: If an organization is large enough, or rich enough in resources, it might have specifically designated risk managers whose sole responsibility is to determine an acceptable level of risk, and make adjustments or recommend adjustments accordingly. These practitioners probably should not be considered incident management practitioners, as their responsibilities are limited to the preparedness phase of incident management.

11.   Disaster Coordinator

A disaster coordinator is an individual who organizes disparate organizations into disaster support functions or disaster support services (i.e., spontaneous volunteer center coordinators, family assistance center coordinators, community emergency response team dispatch center, etc.)

Justification: Those with organizational skills, who understand the foundational incident management components, and have a working relationship with community members and community organizations, are often pivotal during major disasters as a mobilizing force and magnet for the community's varying invaluable resources.

12.   Emergency Planner: (Profession/Discipline Sub-classification)

An emergency planner is an individual within any incident management profession or discipline responsible for facilitating, creating, and reviewing incident

management related plans, policies, annexes, etc. prior to an incident or event, and who during an event, assists in the creation of action plans. These planners may assist in or facilitate consequence management recovery planning depending on their respective profession or discipline.

Justification: Incident management or emergency response plans often cover the collaborative or disparate roles, responsibilities, and actions of various incident management professions, disciplines, and stakeholders and require the contribution, input, insight, and expertise of experienced craftsmen practitioners who also understand foundational planning processes (ideally as outlined in FEMA's Comprehensive Planning Guidance CPG-101). Additionally, during the incident response phase, incident managers at all levels often participate in the action planning process to establish operational period incident management objectives and operational tempo. During the consequence management phase, recovery plans are often needed, and experienced planners can help shape and facilitate those plans by organizing organizations and disciplines for those who may not often participate in emergency planning or incident management planning.

13.   Preparedness Specialist

A preparedness specialist is any person responsible for promoting, teaching, or ensuring individual disaster preparedness and resilience. This person generally has no incident response or recovery responsibilities.

Justification: Preparedness specialists generally have no operational authority or responsibility during an incident. If a preparedness specialist has been successful, then individuals will be better positioned to withstand the adverse effects of an incident, whether those effects are financial, physical, emotional, organizational, etc.

14.   Business Continuity Specialist

A business continuity specialist is any individual with expertise in ensuring sustainability and minimal-to-no disruption of service delivery, product development, or mission continuation broadly or specifically related to a business sector, profession, discipline, or department.

Justification: When the operating environment conditions (temporarily or permanently) adversely change for a business (or organization) making it difficult to meet operational obligations or expectations, an organization must be able to be flexible or resilient enough to weather the new conditions long enough to either allow the conditions to return to normal or the business or organization to adapt their business and service model to thrive within the new operating environment. Business continuity specialists focus on ensuring organizations are best positioned and prepared to withstand changing operating environments and are the equivalent of preparedness specialists for organizations as opposed to individuals.

C.   ORGANIZATIONS

As presented in Figures 7 and 8, the organizations discussed are emergency operations centers, department operations center, dispatch centers, command posts, and on-scene.

IM Practitioners	Guiding Doctrine	IM Levels	Mission Focus	Control Method	Primary Activities
Politicians	Law/Code/ Ordinances	Elected	Political	Leadership	Financing/Public Support/Laws
Executives	Departmental Policies	PAG	Policy	Advisory	Codifying Strategic Methods
Emergency Managers	NIMS/EOP	EMC	Strategic	Coordination	Continuity of Govt. & Strategic Coordination
Crisis Managers	Departmental Procedures	DOCs/Dispatch	Operational	Direction	Moving Resources Around
Incident Responders	ICS	INCIDENT	Tactical	Command	Resources Fighting the Fight

This figure is a conceptual diagram of the various incident management levels, the practitioners at each of those levels, the mission focuses of each incident management level, and other key incident management level characteristics. This figure applies to the entire organizations section, but is also used in other sections.

Figure 7.   Incident Management Levels.
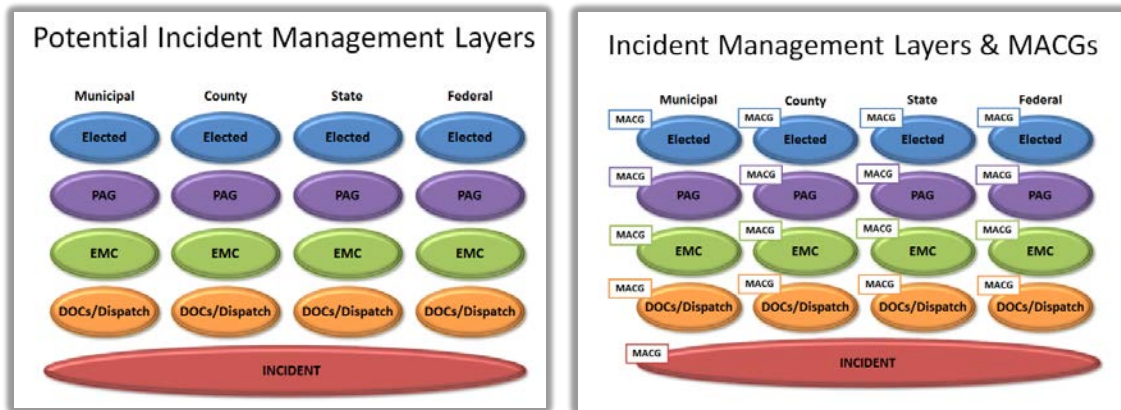
These figures are conceptual diagrams of the various incident management modular components that might be utilized during a large complex event. These figures apply to the entire organizations section. Notice specifically the universal common applicability of the model to all levels of government, and the potential for all those organizational components to activate a supplemental Multi-Agency Coordination Group (MACG) should the need arise.

Figure 8. Potential Incident Management Layers and Incident Management Layers and MACGs.

Introduction: Within the extent incident management literature, as demonstrated within the literature review, several areas of activity, organizational structures, and command and control organizations are described. Within the literature, some of these organizations receive more attention and greater definition, description, and clarity than others. For some, the roles and responsibilities are somewhat vague or ill-defined; for others, their purpose seems to be redundant, and others are described within limited context. Understanding what organizations are carrying out which incident management activities helps to understand how the entirety of the incident management universe, what organizational components are necessary for effective incident management, what activities are carried out by which practitioners and at what level, and appropriate areas of focus depending on an area of operation. It would be difficult and potentially disastrous to expect the same incident management organization to manage the tactics, operations, strategies, policies, and politics of various simultaneous dynamic incidents, crises, emergencies, disasters, or catastrophes. A division of labor and a division of focus, responsibility, and expectation should be delineated amongst the various incident management organizations.

The following definitions are proposed.

1.   Emergency Management Center

Emergency management takes place at an EMC. It is a multi-function coordination center where representatives from various disciplines and functions strategically coordinate using a common language, planning method, and organizational structure applied by emergency managers. The EMC supports the DOCs and the incident command post (ICP) and ensures continuity and survivability of its parent organization. EMCs have very little if no direct command and control over field assets.

Justification: Currently, traditionally known as EOCs, EMCs are the hub of an organization's cross-functional multi-discipline strategic coordination in preparation for and response to large dynamic incidents and events with a focus on response, recovery, and organizational continuity of service. If an EMC is activated prior to a known impending incident or event (i.e., hurricane or large planned event) then the EMC's focus is on crisis management support and situational awareness. It should be noted that when engaged in crisis management support activities, an EMC's focus is not on protection or prevention; it is focused on damage mitigation, preparedness, situational awareness, strategic policy evaluation, and business continuity. EMCs do not prevent hurricanes, tornadoes, earthquakes, terrorists, cyber attacks, etc. Operational DOCs from specific functions or departments with control over response assets (law enforcement, fire, public health, etc.) are responsible for the execution of prevention and protection activities. Prior to an incident or event during the crisis management activities, EMCs focus on reducing and mitigating the potential damage from impending or imminent threats and incidents, and implementing measures that might expedite the recovery process. The name EMC is more appropriate than EOC because EMCs do not actually direct field operations or have control over field assets, so the term "operations" makes little sense and only serves to create potential confusion about roles and responsibilities and may potentially create mission creep.

2. Department Operations Center

Operational crisis management occurs at a DOC. It is a single department, discipline, or function's operations center where crisis managers and technicians operationally manage, deploy, or dispatch assets, resources, or personnel to incidents and other field locations to support tactical activities. DOCs are the primary conduit between EMC strategy and coordination and field tactical activities.

Justification: Those with operational knowledge and expertise within a specific function (law, fire, public health, public works, etc.) who are empowered to make decisions about operational prioritization of department or function assets in relation to various incidents work out of operations centers that serve as the hub for incoming field intelligence, information, communications, and dispatch of additional assets. From the department operations center, the strategies developed at the EMC are implemented or executed, and intelligence or requests from the field are vetted, verified, and distilled and then shared with the EMC for strategy development and collaborative situational awareness. The operational control of function specific assets may serve in a prevention, protection, mitigation, preparedness, response, or recovery role. Department operations centers may activate prior to or without an EMC activation for function specific incidents or for function specific threats to posture assets and prioritize threats and intelligence as necessary.

3. Multi-Agency Coordination Group

A MACG is a supplemental incident management issue or problem set driven component composed of relevant technical specialists from appropriate agencies or functions activated by and beholden to any organization layer of the incident management structure to address a complex issue that might otherwise consume, slow down, or hinder the parent incident management organization's operational tempo or processes.

Justification: The multi-agency coordination system (MACS) is one of the more difficult issues to address or discern among existing incident management components. **As** demonstrated in the literature review and analysis portion of this study, the extent

literature does not often clearly delineate between the roles and responsibilities of the MACS and other incident management component organizations, such as EOCs. If it can be agreed upon that the other identified organizations make up a comprehensive incident management structure, then it is perhaps best to view the multi-agency coordination concept as a supplemental concept best utilized to enhance or supplement existing structures. With this understanding in mind, it makes sense then to consider a group of specialists (from potentially varying and disparate organizations, agencies, disciplines, etc.) assigned to solve a particular problem set a MACG activated and assigned to a parent incident management organization, such as an EMC or DOC. The effective operations or activities of an ICP, DOC, or EMC depend upon an established tempo and planning cycle. Often, a difficult problem (such as resource scarcity or incident prioritization) can slow down the tempo or hinder the larger objective setting cycle of an EMC or DOC. Thus, it is best recommended to create a MACG to address that issue specifically outside of the general activities and tempo of that organization so that general progress can continue to be made.

4. Incident Command Post

The ICP is the location on scene from which all on-scene command, control, incident planning, and tactical operations are directed by the incident commander through the chain of command as outlined in the incident command system (ICS).

Justification: The ICP is a foundational element of the ICS. It ensures that the span of control, responsibility, resource allocation, planning by objectives, and on-scene safety are all accomplished.

5. Incident Management Team

An incident management team (IMT) is a team deployed to support and consult for the full spectrum of incident management needs from preparedness, to incident response, to consequence management. An IMT may also be deployed as the primary response agency to an event of national significance in a non-domestic territory or location.

Justification: IMTs rarely supplant, replace, or override local incident command. They are not given the authority to do so unless a delegation of authority is authorized by the local organization (in home rule states). IMTs are generally deployed to assist local governments and local emergency response agencies with the management aspects of large, complex, or dynamic incidents, or multiple incidents. In non-domestic non-Stafford Act incidents where local government does not necessarily have jurisdictional authority, IMTs may be deployed as the primary response agency.

6. Incident Command Support Team

An incident command support team (ICST) is a team of trained incident command experts deployed to support and consult for incident commanders of dynamic incidents where additional support and expertise is necessary.

Justification: ICST is the proposed term and definition for teams deployed to support field level response agencies solely, and not an EOC or emergency management function. Currently, IMT is the term used to signify support for both field and support level operations and delineation is rarely made between qualification, capability, or purpose. This term will more clearly define what the deployed or inbound support team's purpose is, and what their qualifications and capabilities are.

7. Emergency Management Assistance Team

An emergency management assistance team (EMAT) is a team of trained emergency management, continuity of government or business continuity, and consequence management experts deployed to support and consult for EOC and recovery operations.

Justification: It is the proposed term and definition for teams deployed to support EOC operations solely, and not field level operations. Often, when IMTs are deployed to incidents, they have an ICS and field-centric focus, and inappropriately apply tactical strategies to support and coordination EOC operations. Knowing whether the deployed team is qualified and credentialed for EOC support and coordination operations, as opposed to field level ICS operations, is key to legitimacy and appropriateness in an EOC

setting. As emergency management becomes more defined as a discipline, and as credentials and qualifications for support and coordination operations within an EOC become more defined, it will become more necessary to delineate between tactical field versus support and coordination competencies, capabilities, and qualifications.

D.   PHASES

As presented in Figure 9, the phases discussed are preparedness, incident response, and consequence management.
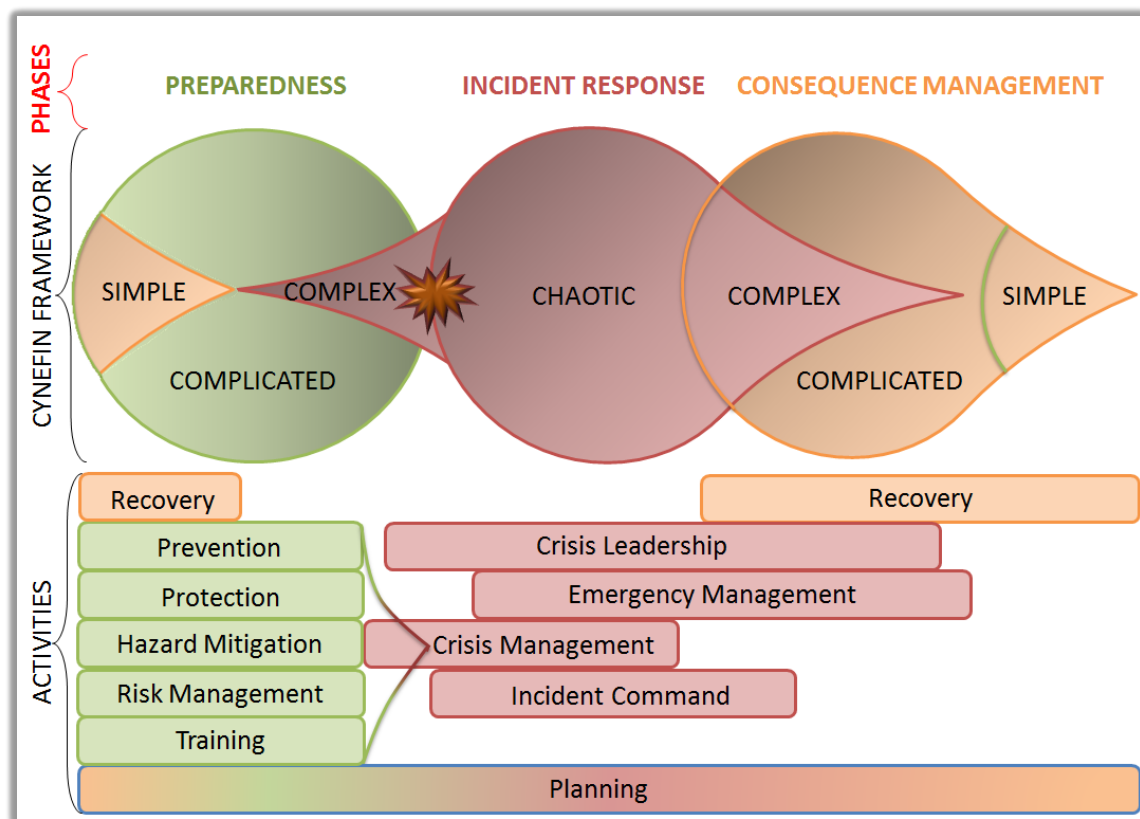
This figure is a conceptual diagram of the process of incident management over time, and the components therein. It applies to the entire phases section (similar graphs apply to the sense making characteristics and activities sections). Notice specifically the highlighting of the phases section, and the three identified phases of the incident management process. It should be noted that the size of each of these phases is conceptual and are not static from one incident to the next. They may be larger or smaller in relation to each other, but were depicted in this figure as equal for graphical purposes.

Figure 9.   Understanding the Process of Incident Management (Phases).

Introduction: The extent literature and doctrine describe throughout as few as two phases of emergency management and as many as seven. Furthermore, some denote them as phases of emergency management, others as phases of incident management, and still others as mission areas or planning areas. It can get confusing. If the term phases of emergency management is used, it may cause people to believe that everything done in those phases should be done by emergency managers. Or, if the terms missions or planning areas are used, then the context or time and phases is lost (as recent federal doctrine often leaves out the concept of phases). It is perhaps beneficial then to understand and have the context of the entire process of what incident management is being called, to include the sequence of events and inherent actions and activities, as well as who is involved in each.

The following definitions are proposed.

1.   Preparedness

Preparedness is referred to the period prior to an incident or imminent threat during which the combination of the separate component activities of prevention, protection, hazard mitigation, risk management, training, and planning occur.

Justification: The sum of the activities of prevention, protection, hazard mitigation, risk management, training, and planning is the measure of achievement of the goal and ideal state of being prepared. A low sum equals greater vulnerability and lower preparedness. It should be noted that the goal of being completely prepared will always remain unattainable and illusive, as unknown vulnerabilities will always be present due to inherent uncertainty and limited predictive capabilities. The consistent known vulnerabilities and threats inherent to the operating environment should inform and focus the various component activities during the preparedness phase. Once a known active or imminent threat presents itself, passive preparedness activities transition into active crisis management or incident response activities.

2. Incident Response

An incident response is the period after a known incident (see previous definition for incident) has occurred or once an active imminent threat becomes known and emergency responders seek to know the unknown and act to reduce or eliminate the immediate threats to life safety, environmental or property damage, or economic loss, and ensure scene security and safety.

Justification: Whether it is a car accident, an earthquake, an explosion, active shooter, cyber-attack, or other type of incident, emergency responders from various incident management disciplines will perform one of the incident command, crisis management, or disaster support coordination activities depending on the size or complexity of the incident. Regardless of the size of the incident, actions must be taken at some level to ensure the scene is secure and no continued or additional threats exist, which requires an action of volition known as incident response. It should be noted that until scene safety and security are established, the incident response could best be described as chaotic. Safety and security may be established early or after a seemingly long period of time.

3. Consequence Management

The period during which actions are taken to return to or establish a new normal state and direct remediation efforts are undertaken is known as consequence management.

Justification: Consequence management is begun once the scene of an incident (or parts of the scene) or the threat environment are determined by incident command or crisis management personnel to be safe or secure enough to begin recovery operations (debris removal, repopulation, repatriation, rebuilding, environmental remediation, cyber improvement activity/repair, etc.).

E. SENSE MAKING CHARACTERISTICS (CYNEFIN FRAMEWORK)

As presented in Figure 10, the characteristics discussed are simple/obvious, complicated, complex, chaotic, and disorder.
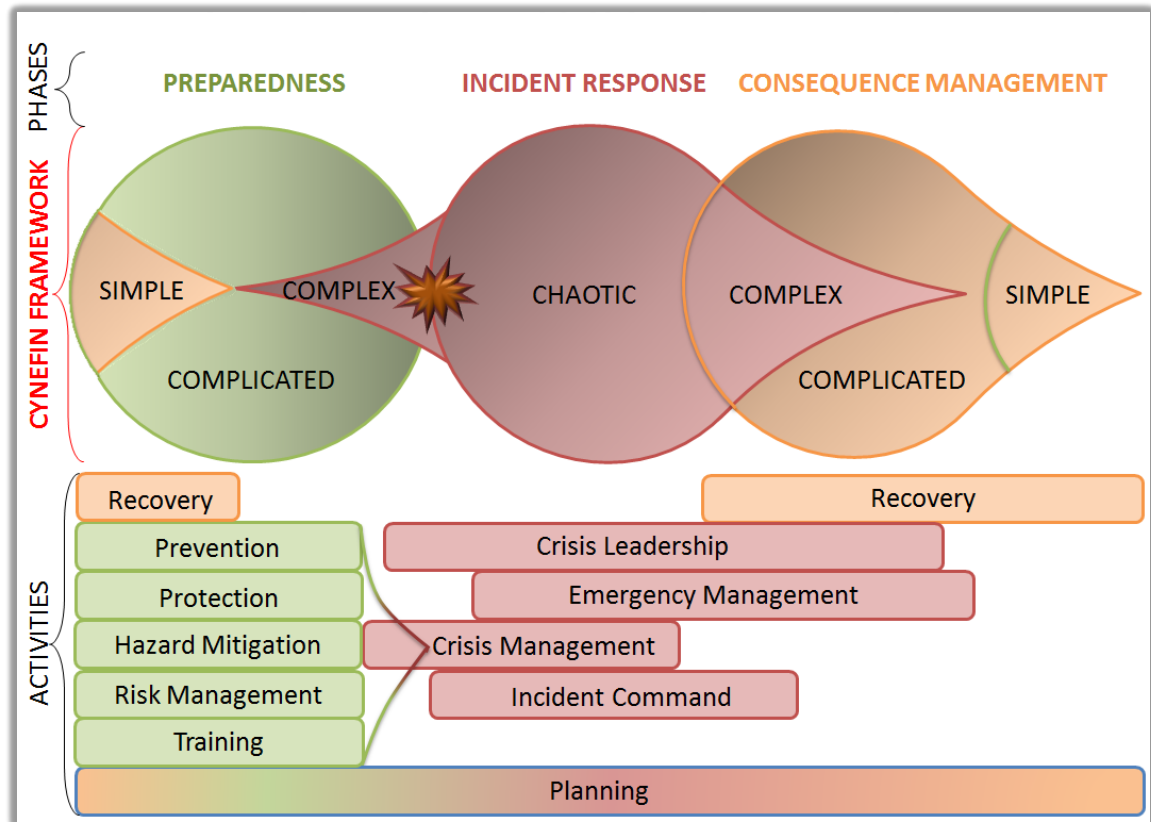
This figure is a conceptual diagram of the process of incident management over time, and the components therein. This figure applies to the entire sense making characteristics (Cynefin Framework) section (similar graphs apply to the prior phases and following activities sections). Notice specifically the highlighting of the Cynefin Framework section, and the inherent sense making characteristics of each phase of incident management, and its cyclical nature.

Figure 10. Understanding the Process of Incident Management (Cynefin Framework).

Introduction: The Cynefin Framework is a sense-making and problem-solving framework that helps define the characteristics of understanding in the transition between and classification of domains between disorder and chaos, and obvious simplicity. The Cynefin Framework is a conceptual model in its own right, used to describe sense making. As a sense-making conceptual model, the Cynefin Framework is well-suited for informing the chronological sense-making characteristics of this larger proposed incident management conceptual model. The line between what is simple, or otherwise obvious, and what is chaotic, or seemingly unknowable, can be described as disastrous, where

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complacency results in failure. Thus, preparedness becomes a paramount and primary aspect of incident management. Regardless of preparedness, or how prepared a person, group, organization, or agency is however, the moment an incident occurs, it must be made sense of, recognized, and processed. This process may take place in a relatively short or protracted amount of time depending on several factors (preparedness, complexity or dynamism of incident, familiarity or experience, etc.). Understanding the sense-making process helps to define what activities are occurring, what activities should be occurring, who the relevant participants are or should be, and provides a better understanding of the appropriate next steps and desired outcomes. Understanding the sense-making patterns also helps the incident management enterprise understand itself and can serve to improve the amount of time it takes to gain an effective perspective on a situation. An incident manager should understand the sense-making process of incidents to understand themselves and their role in the process better.

The following definitions are proposed.

1.   Simple/Obvious

The Cynefin Framework defines simple/obvious as the period in which "the relationship between cause and effect is obvious to all" and the approach to making decisions is to sense, categorize, and then respond.[92] This sense-making category applies to the earliest preparedness phase actions and latest consequence management phase actions of incident management.

Justification: The most basic and simple preparedness actions should be either simple or obvious, or both. When beginning to increase preparedness, the various activities and measurement of prevention, protection, hazard mitigation, risk management, training, and planning become more intertwined and interdependent, and inherently more complicated. Additionally, once incident response demobilization has taken place, and as consequence management and response activities, processes, and roles and responsibilities become well defined and categorized, decisions become

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[92] Christopher Bellavita, "Shape Patterns, Not Programs," *Homeland Security Affairs*, vol. II, no. 3 (2006): 1–21.

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obvious or simple. All that should be required during these periods is to determine the need, categorize it, and act.

2. Complicated

The Cynefin Framework defines complicated as the period in which "the relationship between cause and effect requires analysis or some other form of investigation and/or the application of expert knowledge," and the approach to making decisions is to sense, analyze, and then respond.[93] This sense-making category applies to the primary preparedness and consequence management phases of incident management.

Justification: Advanced preparedness activities require technical hazard mitigation analysis, risk management analysis, and several levels of preparedness evaluation. The various activities inherent to advanced preparedness are tightly woven, interconnected, and dependent. Additionally, during the first steps and earliest activities of the consequence management phase of incident management, significant evaluation occurs of recovery capabilities, needs, priorities, stakeholders, roles and responsibilities, cost reimbursement processes, and other issues that have to be categorized and mechanized, many of which are interdependent and tightly woven.

3. Complex

The Cynefin Framework defines complex as the period in which "the relationship between cause and effect can only be perceived in retrospect, but not in advance," and the approach to making decisions is to probe, sense, and then respond.[94] This sense-making category applies to the pre-incident crisis management and "demobilization," or consequence management transition activities of the incident response phase of incident management.

Justification: When an active imminent threat becomes known, actions must be taken to prevent it if possible, protect targets, mitigate damages, complete just-in-time training, gather intelligence, information, and situational awareness, deploy or dispatch

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[93] Bellavita, "Shape Patterns, Not Programs," 1–21.

[94] Ibid.

assets, etc. Many of these activities are tightly interwoven and may have to be accomplished within a defined time period creating a necessity for prioritization, expediency, and activity triage. It is an inherently complex process that may have extremely high stakes. Additionally, during the transition from incident response to consequence, management incident commanders must balance the risk of undiscovered persistent threats or hazards, reemergence of threats or hazards, other unknown factors and the need to demobilize, rest or reduce resources, begin recovery activities and site remediation actions. The transition between incident response and consequence management may not be linear and may require remobilizing response assets to areas or environments previously thought to be secure and safe. This process or transition is inherently complex, potentially fraught with risk, and requires investigation and loosely defined threshold determinations.

4. Chaotic

The Cynefin Framework defines chaotic as the period in which "there is no relationship between cause and effect at a systems level," and the approach to making decisions is to act, sense, and then respond.[95] This sense-making category applies to the post-incident and pre-demobilization incident command, crisis management, and strategic support coordination activities during the incident response phase of incident management.

Justification: During the post-incident and pre-demobilization activities of the incident response phase of incident management, the cause of the incident is often rarely known, and emergency responders are forced to be primarily reactive in nature, increasing incident command structures, activating department operations centers and emergency operations centers as necessary depending on the perceived or estimated complexity and dynamism of the incident. Often assets are dispatched to the scene without knowing the extent of the threat or hazard. In this sense, emergency responders and incident management practitioners from all disciplines are acting (responding to) then sensing and observing once they arrive at the scene or begin their respective actions,

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[95] Bellavita, "Shape Patterns, Not Programs," 1–21.

and then respond based on their limited observations or knowledge. Once the extent of the hazard or threat is known, and it is determined that sufficient resources or assets have been applied to the incident, and the threat begins to ebb, the incident then begins to transition from chaotic to complex.

5. Disorder

The Cynefin Framework defines disorder as "the state of not knowing what type of causality exists and people revert to their own comfort zone in making decisions."[96] This sense-making category applies specifically to the events immediately surrounding the incident prior to the arrival or response of emergency responders during the incident response phase of incident management.

Justification: When an incident happens, people are generally acting with very limited knowledge and their actions are the product of an inherent desire for self-preservation and safety. These actions may even be at the subconscious or involuntary reaction level. There is little to no ability to apply systems or mechanisms consciously during this phase. These actions might often be referred to as "fight or flight" actions.

F. ACTIVITIES

As presented in Figure 11, the activities discussed are incident management, incident command, crisis management, emergency management, risk management, recovery, prevention, protection, hazard mitigation, planning, and training.

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[96] Bellavita, "Shape Patterns, Not Programs," 1–21.
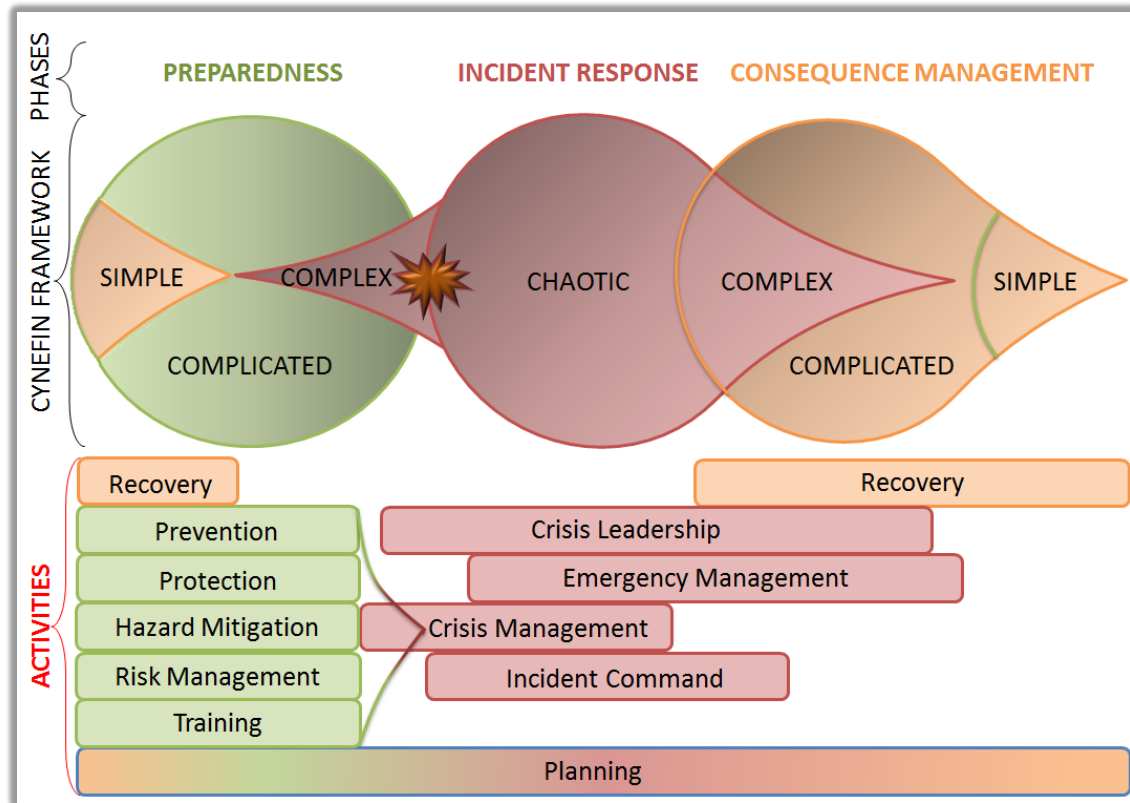
This figure is a conceptual diagram of the process of incident management over time, and the components therein. This figure applies to the entire activities section (similar graphs apply to the phases and sense making sections). Notice specifically the highlighting of the activities section, and the various activities that take place during each phase. Additionally, notice how several of the preparedness phase activities transition in to the activity of crisis management as impending incidents and threats become present.

Figure 11. Understanding the Process of Incident Management (Activities).

Introduction: Just as important as understanding the various types of incident managers or the various organizations and locations involved in incident management, it is also important to define and understand the various activities that should be occurring at those organizations and locations by the various types of incident managers. Certain activities might be performed by various incident management actors or disciplines, while others might be performed exclusively by a certain type of incident manager. It should be stated that sometimes a particular incident manager might be expected to perform activities traditionally reserved for an incident manager of a different type. It does not mean that certain incident managers do more than the defined roles and responsibilities for their discipline type; it simply means they are wearing multiple hats

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and performing the duties of multiple incident manager types. This situation might be particularly common in smaller jurisdictions or municipalities where an incident manager of a certain type is forced to carry the burden of several incident manager types. Understanding what activities an incident manager is expected to carry out, and what activities are inherent to what incident management phases, practitioners, or structures will help incident managers be more effective and meet expectations appropriately. It should be noted that the following list of proposed definitions concerns actions and not goals. (i.e., the definition of the action of emergency management is not necessarily the same as the goal.) The goal, for all these activities, can probably be stated as saving lives, property, and the environment. However, just because that is the goal does not mean it is appropriate for every actor to do all the incident management activities necessary to accomplish that goal.

The following definitions are proposed.

1. Incident Management

Incident management refers to the combined activities performed by all disciplines and professions during all phases of the incident management life cycle.

Justification: Regardless of whether an incident becomes an emergency, a disaster, or a catastrophe, as incidents become larger or more dynamic and complex, the scope of the management of that incident scales up accordingly. More disciplines may need to become involved, department operations centers may need to be activated, emergency operations centers may need to be activated, and they may each have their own specialized multi-agency coordination groups. While each of these various entities may be performing different activities, they are all still working towards the same goal, the recovery from the incident (or incidents) that required their involvement. Thus, these collective efforts, activities, and endeavors all fall under the umbrella of incident management.

2.   Incident Command

Incident command encompasses all of the emergency response activities that occur within the defined scene under the purview and organizational structure and authority of the incident commander as defined by the ICS.

Justification: The ICS is a well-defined and widely adopted framework outlining the authorities and most effective organizational structure for managing incidents at the scene. Any individual with responsibilities for saving lives, property, or the environment at the scene of an incident falls under the ICS.

3.   Crisis Management

Crisis management is the just-in-time discipline or function of specific activities of active prevention, protection, hazard mitigation, risk management, training, planning, and other problem-solving activities required during the rapid onset of pre-incident awareness of a known imminent threat (posing generally limited organizational change), or post-incident at locations where cascading or related incidents have yet to occur.

Justification: A crisis can be defined in many different ways, but unfortunately, none are very satisfying in relation to incident management (see the literature review). Little consensus has been reached for what a crisis means specifically. As described in the literature review, the common preeminent perspectives within crisis theory seem to place the responsibility of crisis management on the person or organization to which the crisis is happening, which can be compared to people in middle of a psychological breakdown acting as their own therapist. This approach seems foolhardy when defining or operating as a crisis manager, and actually, creates a bit of a paradox as many definitions of a crisis have elements describing them as unmanageable (the paradox in other words is being a manager of the unmanageable). It seems more appropriate to view crisis managers as an outside force who attempt to stabilize, marginalize, or isolate a crisis from the outside, especially if that external crisis stands as a threat to their own organization or capability. Thus, for the definition provided previously, crisis management is the use of discipline and function specific capabilities, tools, assets, and resources to eliminate or reduce the existing threat. It should be noted that only those

with assets, resources, capabilities, and authorities to prevent, protect, and mitigate threats actively participate in crisis management. Since incident commanders have an already existing incident and defined scene to manage, and since prevention and protection and mitigation activities would fall under the umbrella of incident command or response activities on scene, it does not seem appropriate to apply the term crisis management to incident command scenarios. DOCs and function specific operations centers with control over response assets (like Federal Bureau of Investigation (FBI) crisis management centers, cyber-security operations centers, public works operations centers, etc.) and have access to threat or hazard intelligence is where crisis management most commonly takes place. Since EOCs do not have direct operational control over field assets that would do the active threat prevention, target protection, damage mitigation, etc., very little crisis management occurs at EOCs, and generally, only passively. It should be noted that crisis management activities might occur long after an incident occurs. For example, if a threat-specific incident occurs, say a bombing of some sort, it is uncertain if other potential targets exist, but a known threat to those targets may exist, and active measures to protect and reduce exposure to those targets may have to happen. Or, after an earthquake, for example, several incident scenes may be related to the immediate damage of the earthquake, but impending incidents may be related to infrastructure or life safety that might require a crisis response (actions that might be considered mitigatory in nature had the response phase not been initiated).

4.   Emergency Management

Emergency management refers to the collaborative senior and executive level strategic decision-making and support coordination amongst various functions and disciplines within a larger organization containing various departments, disciplines, or professions.

Justification: At EOCs, and other support centers, senior leaders from various functions, disciplines, and professions collaborate to create strategy and policy guiding incident command support, crisis management priorities, public information, recovery, mass care and shelter, evacuation support, etc. Very few, if any field or operational

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assets, are directly controlled from the EOC. EOCs, using information received from DOCs and field units, create the strategies and policies to be carried out operationally by DOCs to support incident command activities, crisis management activities, and victim support activities.

5.   Risk Management

Risk management is the activity of adjusting preparedness activities to reduce the risk to an acceptable level. The smaller the gap between preparedness and vulnerabilities, the closer the goal of being prepared is.

Risk: The gap between preparedness and vulnerabilities weighted by probability and severity.

Vulnerability: The combination of known and unknown hazards, threats, and capability deficiencies as determined by assessments.

Assessment: The risk management activity of increasing the knowns and reducing the unknowns associated with vulnerabilities and their inherent probabilities and severities, as well as increasing awareness.

Hazard Assessment: Determining vulnerabilities associated with exposure to pre-existing natural and man-made conditions, events, or circumstances that could lead to or contribute to an unplanned or undesirable event.

Threat Assessment: Determining vulnerabilities associated with credible and serious threats of intent, as well as the likelihood that they will be carried out in the future.

Capabilities Assessment: Determining vulnerabilities associated with knowledge, resource, and skills performance deficiencies.

Justification: The less robust the hazard, threat, and capabilities assessments are, the greater the unknown vulnerabilities and their potential probabilities and severities are. The greater the unknown vulnerabilities are, the lower the dependability of the vulnerability factor is. The lower the dependability of the vulnerability factor is, the more difficult the gap between preparedness and vulnerabilities is to define. The lower the

preparedness and vulnerability gap definition is, the higher the risk becomes. The higher the risk becomes, the more difficult risk management becomes. The more difficult risk management becomes, the harder it becomes to reach the goal of being prepared.

6.   Recovery

Recovery includes all the post-incident response actions taken to return to a normal or new normal state to include site remediation, evacuee repatriation, cost recovery, disaster assistance center establishment, expedited building permit centers, cyber-infrastructure repair or reactivation, etc.

Justification: Just because the threat or hazard has been contained, removed, or has ended, does not mean that elements related to the incident may not still need managing. The consequences of the damage caused by the incident still need to be managed to ensure long-term adverse effects are not incurred due to the damage or incident response operations, which is the consequence management aspect of incident management. Much of the initial consequence management is coordinated by EOCs as part of the strategic support and coordination activities. Eventually, however, EOCs deactivate and the continued long-term recovery operations are managed by various functions, departments, or support centers.

7.   Prevention

Prevention relates to the act of actively or passively reducing or interdicting the occurrence of incidents caused by hazards or threats.

Justification: Actively preventing a human threat may include arresting someone based on actionable intelligence, while passively preventing a human threat may include advertising an increase in surveillance activity, and thereby, deterring potential attackers (it can be debated whether deterrence is in fact prevention). Actively preventing a hazard or natural threat is not the same as mitigating it (like using sand bags to mitigate flood damage. The flood is not prevented; only the damage has been mitigated). Preventing a hazard or natural threat incident is difficult and sometimes impossible (i.e., stopping earthquakes). Using vaccines to prevent the spread of dangerous diseases and viruses is

one example of the prevention of natural threats or hazards. Releasing sub-surface thermal pressure to stop a volcano from erupting would be another example of the prevention of a natural threat or hazard.

8.   Protection

Protection is the act of increasing the active security posture or presence for any potential suspected or known target (human, building, or infrastructure).

Justification: Like prevention, protection is not mitigation. An action taken to reduce the amount of damage something might take due to the occurrence of an incident (hazard or threat) is a mitigation measure. Protection is the increasing of active security around a known or suspected target. The term target denotes human intent, and thusly, requires an active conscious security awareness and presence through volition. The only difference between active and passive protection is the existence of a known active threat or aggressor.

9.   Hazard Mitigation

Hazard mitigation relates to the act of reducing exposure to and the severity of hazards, vulnerabilities, system failures, and threats.

Justification: Any action not preventing an incident from happening (prevention) or actively securing or protecting (protection) designed to increase the resilience, survivability, or redundancy, and reduce potential damage or threat or hazard exposure would be considered a mitigation measure. Putting sand bags out to create a barrier to flood waters is an example of a mitigation measure. Putting shatter resistant glass on a building or vehicle may be considered a mitigation measure. Adding communications channels or mechanisms to an operations center may be considered a mitigation measure. Hardening a facility to reduce the damage caused by explosions can be considered a mitigation measure. Creating an auto-backup capability for cyber-infrastructure may be considered a mitigation measure. Reinforcing a building to ensure occupants are not injured by falling walls or objects in an earthquake is an example of a mitigation measure. Delineating between mitigation, prevention, and protection is key, as it helps

define functional roles and responsibilities, and appropriate mission spaces based on authority and function.

10.   Planning

Planning is the process of defining roles and responsibilities, actions, capabilities, and procedures related to scenarios or functions, as well as the process for creating tasks, objectives, strategies, and priorities during an incident.

Justification: During the preparedness phase of incident management, planning is used to pre-determine the actions to be taken by various stakeholders or functions in the event of a general or specific incident. During the incident response phase of incident management, planning is used to establish an appropriate operational tempo and create an action plan outlining the tasks, objectives, strategies, and priorities for the specific incident. In the consequence management phase of incident management, planning is used to determine the roles and responsibilities of various departments and stakeholders and outline specific recovery priorities and procedures germane to the particular incident.

11.   Training

Training encompasses the actions taken to increase incident managers' individual or group knowledge, skills, and abilities related to their specific incident management roles and responsibilities before or during an incident.

Justification: Training, whether it is well in advance or just-in-time, is crucial to the success of incident management. Having the necessary KSAs to execute an incident management function effectively is what ensures the greatest success and effectiveness of the entire incident management structure and framework. Having the knowledge of the system and the function specific details, combined with the refined abilities and trained skills, is the best measure of ensuring individual and group incident management competence.

G. MISSION SPACES

As presented in Figure 12, the mission spaces discussed are ICS support, strategic support and coordination (emergency management), extended strategic support and coordination, area command, unified command, unified area command, extended ICS support, and elected officials.
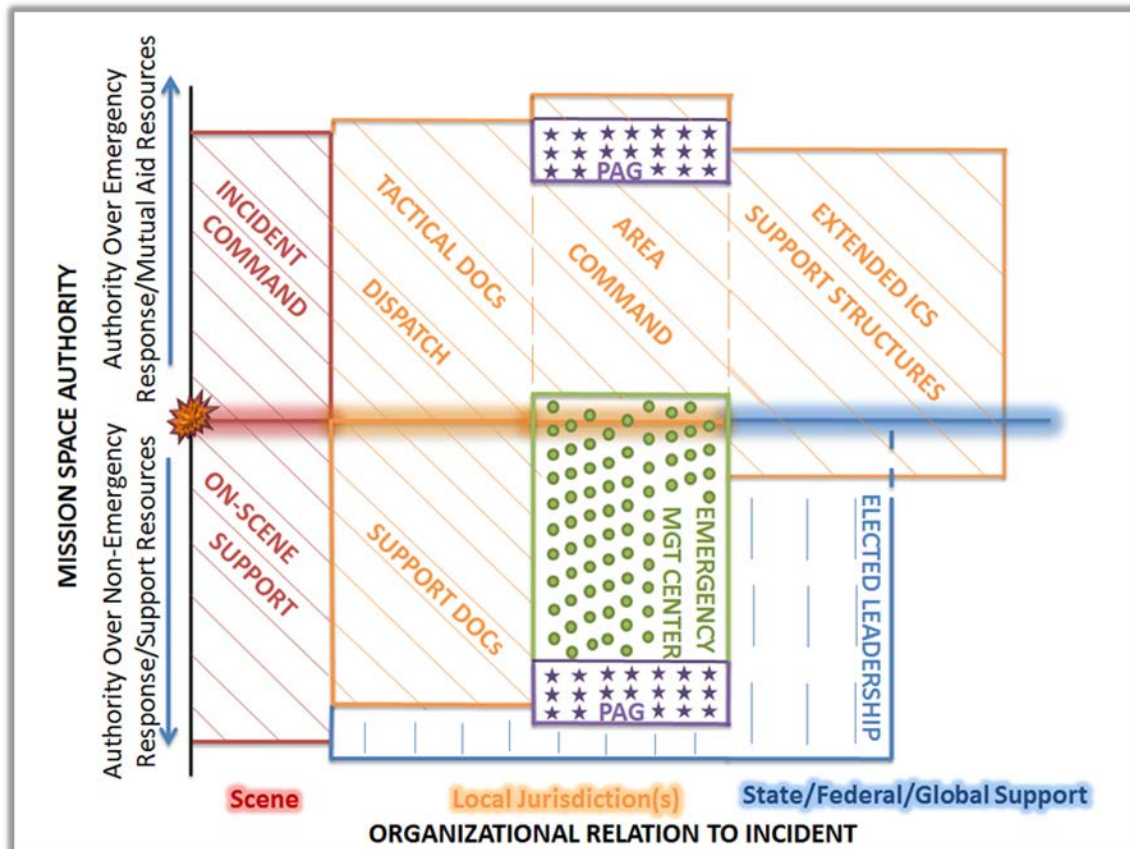
This figure is a conceptual diagram of the various mission spaces of organizations and practitioners of incident management and their relation to the incident. It applies to the entire mission spaces section. Notice specifically the policy advisory group (PAG) relation to the EMC and area command organizations and how their executive authority over their various departments relates to the other organizational components.

Figure 12. Understanding Incident Response Mission Space.

Introduction: Once incident managers understand what type of incident they are involved in, what type of incident management practitioner they are, what organizational structure they are operating in, what specific incident management activities they are

performing, and what phase of the incident they are operating in, the next key aspect of understanding is their area of responsibility, area of focus, and authority. Understanding what aspects of the incident these incident managers are applying to their organizational focus and activities on is key to ensuring that unnecessary overlap, redundancy, and mission creep is not occurring. For example, as an emergency manager in a national level emergency management center during a major disaster, then the focus probably will not be on organizing the same strategic support and coordination that the emergency managers in the local EMCs are organizing; instead the focus will be on the national level strategic coordination and support to the local EMCs. The same may be true of an area commander not focusing on the tactics at the scene on which an incident manager may already be focusing. These various areas are called mission spaces. Understanding organizational mission space will help ensure the necessary activities are happening at all the various levels of incident management during incidents of any size or complexity.

The following definitions are proposed.

1. Incident Command System Support

The incident command mission space is everything (to include assets and personnel) within the designated single incident area and under the authority of the incident commander or unified commanders' authority.

Justification: The incident command system mission space is limited to the boundaries of the single designated incident area to ensure the appropriate span of control, proper safety oversight, and focus of roles and responsibilities. With authority over one incident, the incident commander makes tactical decisions to address the safety of life, property, and the environment. Everything (to include support personnel at the scene, such as utility workers, critical incident stress management, etc.) is under the authority of the incident commander.

2. Strategic Support and Coordination (Emergency Management)

Strategic support and coordination relating to emergency management is an activity happening outside of the designated incident area (but potentially within the

larger geographical disaster area causing the incidents), but within the local jurisdiction or municipality containing the incidents. The authorities of incident command and strategic support and coordination do not overlap.

Justification: Strategic support and coordination activities occurring at EMCs and other support centers do not take place within the designated incident scene because their focus is greater than the incident itself. Strategic support activities are focused on the continuity of government services, the availability of resources to the incidents, and the response or support activities occurring outside of the incident scene (shelters, evacuation centers, routes, etc.). Once support assets, personnel, etc. arrive at the scene of an incident, or at the staging area, they are under the authority of the incident commander and fall under the ICS. Strategic support and coordination may be happening at several levels (local, state, federal, international) at the same time depending on the combined size and complexity of the event.

3.   Extended Strategic Support and Coordination

Extended strategic support and coordination refers to the strategic support coordination occurring in support of the local government's strategic support and coordination activities.

Justification: Often in large complex events, county, state, and federal agencies activate operations centers in direct support of major incidents that happen at a local level or in a municipality. These operations centers may support field (tactical ICS) level activities with resource allocation, or they may support the strategic support and coordination occurring at the local level through finance operations, sheltering operations, legal policy and code creation or council, public information support, etc. In that case, they are supporting the support and coordination efforts in an extended manner.

4.   Area Command

Area command is the singular consolidated authority structure established to prioritize incidents, broker scarce or limited resources, and support various incidents with several incident commanders or an incident that has become too geographically or

jurisdictionally large or diffuse to have a single incident commander. It is organized in an ICS-centric structure to support field ICS.

Justification: When various incidents are taking place in a jurisdiction or amongst various jurisdictions with limited response resources, a brokering authority must be established to determine who will receive those scarce resources. Additionally, when an incident has become so large or complex (a large wildfire, for example) that a single incident commander cannot effectively maintain control or oversight of the safety and tactics at the scene, then several incident commanders may be established to address defined geographical or incident specific areas over which a single coordinating, prioritizing, and support authority should be established, being the area commander.

5.   Unified Command

A unified command includes the collaborative leadership and command amongst commanders of various response disciplines during complex incidents with no clear discipline lead, or amongst commanders of the same discipline when a single incident impacts multiple jurisdictions and resources must be shared but are not scarce or limited. It is organized in an ICS-centric structure to support field ICS.

Justification: Emergency response agencies often have areas of responsibility. When an incident borders on their area of responsibility and that of another agency's, it likely requires a collaborative response approach, while still maintaining authority of the agency's respective assets and tactics, which is one scenario where unified command is appropriate. Another example may be a complex incident requiring the response and leadership of multiple disciplines like a bombing where multiple victims require emergency medical service response and control, but the potential continued security risk dictates leadership and control by law enforcement, and the potential existence of hazardous materials may require the leadership and control of fire or hazardous materials (HAZMAT) teams, which is just one example of a complex incident that might require the use of a unified command. Another example may include the inclusion of private industry. A unified command generally only exists as a transitional state of being for incident command and management. It exists until uncertainty becomes certain, as

disorder transitions through chaos to complexity. It primarily only exists during chaos and early complexity. It necessitates fluidity.

6. Unified Area Command

A unified area command includes the collaborative leadership and command amongst commanders of various response disciplines when multiple complex incidents with no clear discipline lead exist, or amongst commanders of the same discipline when a single incident impacts multiple jurisdictions and resources must be shared and are scarce or limited, but no obvious agency lead can be determined or agreed upon. It is organized in an ICS-centric structure to support field ICS.

Justification: In a major disaster, several complex incidents may exist, or multiple incidents from various single disciplines. If all these incidents are pulling from the same scarce resource pool, and a collaborative prioritization of incidents requiring those resources is needed to ensure an effective collective response, then a unified area command may be required. For example, during a catastrophic earthquake, several incidents with mass casualties, several fire incidents, several HAZMAT incidents, and several law enforcement related incidents may result. Several of those incidents may require resources from one or more of the other disciplines. Additionally, an incident may occur that if collectively prioritized, may result in a more effective response than if multiple incidents are prioritized separately. Also multiple incidents across jurisdictions may result where it might not be politically feasible to have a single area commander (when an incident or incidents cross national borders, for example) and a unified area command may be most appropriate. It may also apply when a private agency is involved or when on private property. A unified area command generally only exists as a transitional state of being for incident command and management. It exists until uncertainty becomes certain, as disorder transitions through chaos to complexity. It primarily only exists during chaos and early complexity. It necessitates fluidity.

7. Extended ICS Support

Extended ICS support references the county, state, or federal ICS response support structures, organizations, and operations centers beyond the local level that

deploy assets and resources directly to field level incident or area commanders. It is often organized in an ICS-centric structure to support field ICS.

Justification: These structures are the extended resource support sources that can be called upon in extremely complex or large events. The county, state, or federal government often has response assets in several of the common and uncommon response disciplines that can be leveraged at the local level should they be needed.

8.   Elected Officials

Elected officials are the conduit between constituents and response and coordination structures for understanding and communicating the community's needs. They politically enact policy established at lower levels, and garner political and financial support from higher political offices.

Justification: Elected officials have a key role in supporting and reinforcing the incident management system. Key information may be communicated about response and coordination efforts to the public through elected officials who can often help reduce potential interruptions, conflicts, or inefficiencies due to low public support. Additionally, elected officials can help to enact policy that can grant necessary powers to public safety officials for response, or recovery measures.

H.   COMPETENCIES

As presented in Figure 13, the competencies discussed are incident management knowledge, skills, and abilities.
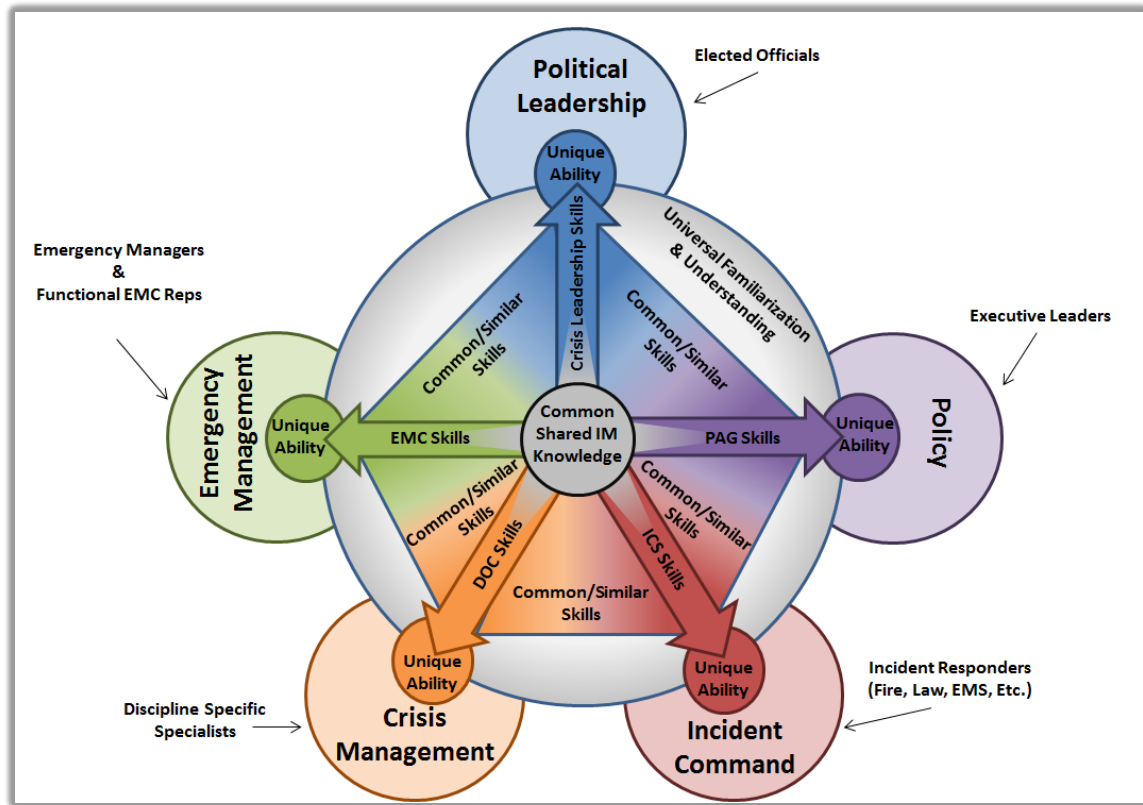
This figure is a conceptual diagram of the various practitioners of incident management and their knowledge, skill, and ability characteristics and development trends. It applies to the entire competencies section. Notice specifically the areas of common or similar skills that might apply to the various practitioners. It is particularly key in that the five arms are placed in relation to their common interface, and thusly, their skills should reflect that cross-functional awareness and capability.

Figure 13. Incident Management Knowledge, Skills and Abilities.

Introduction: Among the currently existing incident management doctrine, core competencies are defined. These core competencies help to describe and define areas of deficiency and performance within the incident management enterprise at large. However, a more granular level of competency should be addressed at the individual practitioner level. The competency of an individual incident management practitioner and the collective competency of all the practitioners within the incident management enterprise inform the efficacy of the entire enterprise. The composition of individuals' incident management competency should be defined by their respective incident management KSAs. The value of the combination of KSAs is the measure of an incident

management practitioner. Understanding these integral parts to individual competency will help practitioners understand their areas of strength and weakness, and help define a path to improvement. Incident management practitioner who increase their individual competencies help to increase the overall efficacy and competency of the incident management enterprise, like a rising tide lifting all ships.

The following definitions are proposed.

1.   Incident Management Knowledge

Incident management knowledge refers to the awareness, understanding, familiarization, and education about the entire incident management universe that makes it possible to understand the lexicon, concepts, relationships, ideas, and principles that make up the various incident management doctrinal elements and components.

Justification: Exposure to the universe of incident management in general may happen in a variety of ways, whether through school, employment, life experience, etc. Awareness, understanding, familiarization, and education about the universe of incident management may be gained through specific academic courses of study, through literature, through work experience and relationships, conversation and debate, etc. The more awareness, understanding, familiarization, and education attained about the incident management universe, the more knowledge people have. Knowledge is the first level of competency required to become a competent incident management practitioner within any incident management discipline.

2.   Incident Management Skills

Incident management skills describe function and discipline specific capabilities provided through training courses that qualify someone to perform in a specific incident management functional capacity.

Justification: After establishing a foundational knowledge base, a person appointed to fill a functional position or role at any level within the incident management universe must then complete function specific training to gain the initial primary skills

needed to perform or execute the assigned function. Many incident management training courses may be designed to provide both knowledge and skills.

3. Incident Management Abilities

Incident management abilities measure the proficiency level and refinement of the skills gained through training courses improved through practice, drills, exercises, repetition, and dynamic exposure.

Justification: Once knowledge and skills are gained, they must be practiced, drilled, exercised, and repeated to increase proficiency, reaction time, confidence, and efficacy.

I. PROPOSED INCIDENT MANAGEMENT CONCEPTUAL MODEL CONCLUSIONS

This proposed incident management conceptual model's topics and sections were determined by the guiding principles outlined at the beginning of the section, derived as a solution to the literature review's findings of doctrinal shortfalls. The best examples of current and past definitions of the terms above, the FEMA Glossary of Terms,[97] The Department of Homeland Security Risk Lexicon,[98] or Dr. Blanchard's Guide to Emergency Management and Related Terms, Definitions, Concepts, Acronyms, Organizations, Programs, Guidance, Executive Orders, & Legislation.[99] Within these documents you will find over 500 various definitions for the combined 62 terms proposed in this study's model. Many of the terms in this proposed model have no pre-existing definition in any of the existing literature, such as "Incident Manager", surprisingly enough. It is not recommended that a one-for-one comparison of the proposed definitions and pre-existing definitions be done, as the value of the proposed definitions lies in the method of their genesis and their complementary nature, in that they were all created together for the purpose of synergy and are thus more complimentary, making the model

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[97] "Glossary," June 15, 2015, https://emilms.fema.gov/IS700aNEW/glossary.htm.

[98] "DHS Risk Lexicon," October 4, 2016, https://www.dhs.gov/dhs-risk-lexicon.

[99] Blanchard, *Guide to Emergency Management and Related Terms, Definitions, Concepts, Acronyms, Organizations, Programs, Guidance, Executive Orders, & Legislation.*

more comprehensive and thorough. Applying these principles throughout the conceptual model, in every topic and section, has created a comprehensive, consistent, and more satisfying model that addresses all the necessary aspects of the incident management enterprise and activities. Perhaps one of the most important conclusions to be taken away from this model is the value in maintaining consistent principles, paradigms, and lens of perspective in describing all aspects of incident management. Separating and segregating topics as separate planning endeavors to be undertaken by different entities with different perspectives, guiding principles, and paradigms can create disjointed and gap-riddled doctrine. A comprehensive single-effort approach of defining and describing all aspects of incident management concepts and components from bottom to top creates a more consistent and comprehensive model. To demonstrate the value of this approach, and of this proposed conceptual model, an analysis of application is conducted by testing retroactively this model on case examples (see Appendix B).

V.   CONCLUSIONS AND RECOMMENDATIONS

This section is a summary of the findings, results, and conclusions of this study. The findings are derived from a combination of the practitioner interviews conducted in the discovery and analysis portion of the study, the incident management literature review and analysis, the development and synthesis of the proposed new incident management conceptual model, and the application of that framework to the various case examples (found in Appendix B). The following conclusions can broadly be described as having a focus on doctrinal deficiencies, where the currently existing doctrine makes up a conceptual model with demonstrated lacking utility. There are two main categories of findings and recommendations. The first is crisis philosophy, operational movement of resources, and the role of DOCs. The second is regarding deficiencies in existing foundational term and concept definitions. The list of conclusions and recommendations follows.

A.   CONCLUSIONS REGARDING CRISIS PHILOSOPHY, OPERATIONAL MOVEMENT OF RESOURCES, AND THE ROLE OF DEPARTMENT OPERATIONS CENTERS (DOCS)

- **A doctrinal gap exists in the definition of "crisis" as it relates to incident management as an event, mode, or phase**. As is explored in the literature review, and described in the proposed new incident management conceptual framework, the definition of "crisis" within the incident management lexicon should have a pre-incident, threat, and mitigatory focus, as "crisis" denotes potential or impending peril as a result of un-intervened existing events, trends, or phenomena.

- **A lack of doctrine addresses the role of DOCs within the incident management structure throughout the extent incident management literature, doctrine, and guidance.** It is explored and discovered in the literature review that DOCs are all but non-existent in the national incident management literature and doctrine, and inadequately touched upon in most other sources of incident management doctrine and guidance. DOCs and continuity of operations planning and guidance should perhaps be interrelated in national guidance.

- **A lack of doctrine addresses the operational movement of resources among or between various incidents.** It is explored and discovered in the literature review that resource movement outside or between incident

command structures (separate incidents) is missing from much of the existing doctrine and guidance. Not to be confused with mutual aid structures (that are only slightly more adequately addressed in national doctrine), the movement of resources belonging to one agency between incidents is hardly discussed, and should probably be addressed in DOC doctrine, which is also missing from most national doctrine.

- **Crisis management is perhaps most appropriately applied to the DOC level of incident management structures.** As described in the proposed new conceptual model lexicon, it involves the application of discipline or function specific capabilities, tools, assets, and resources to eliminate or reduce an existing threat. If an incident has occurred, then it is no longer crisis management but incident command or response. Also, since only those with operational control of assets, resources, capabilities, and authorities to actively prevent, protect, and mitigate threats using real-time intelligence participate in crisis management, this means that crisis management is not occurring at EOCs since EOCs do not have direct operational control over assets as DOCs do.

- **A lack of doctrinal delineation occurs between operations centers and strategic coordination centers.** As demonstrated in the literature review, throughout the extent incident management literature, little discussion or delineation is provided about the differences between tactical, operational, and strategic coordination actions. This lack of definition is a major gap in the doctrinal components of incident management and may be influencing mission creep and organizational conflict.

The following are a list of corrective actions which may help to address the above listed conclusions:

- **The integration of "crisis", "crisis management,", and pre-incident and intra-incident operational concepts should be improved in incident management doctrine and it should address moral imperative, operational movement of resources between incidents, and discipline or function specific roles and responsibilities concepts**. Also, it is necessary to improve this integration in local policies, emergency operations plans (EOPs), and annexes to EOPs. This study's new proposed conceptual framework potentially has examples of ways to do that integration, which will help ensure comprehensive, holistic, and full-spectrum incident management concepts are addressed at all levels and also help to ensure buy-in from all the collaborating incident management enterprise agencies and disciplines.

- **More comprehensive incident management doctrine, guidance, and policy should be created at the federal, state, and local levels, which integrates DOCs specifically more intuitively and appropriately to**

ensure the necessary separation between incident command and incident support or continuity-of-government functions. This study's new proposed conceptual framework potentially has examples of ways to do that separation. Doing so will help to ensure inappropriate mission-creep is avoided and help to ensure that practitioners with the most appropriate knowledge and discipline specific authority are controlling the movement of critical response assets. Most importantly, it will help to deconflict and assist the priorities and actions of the field and EOCs (or EMCs as proposed in the conceptual model).

B.   **CONCLUSIONS REGARDING DEFICIENCIES IN EXISTING FOUNDATIONAL TERM AND CONCEPT DEFINITIONS**

- **The definition of various incident management disciplines, actions, event types, activity levels, and other key components, and the differences between them, need to be more clearly delineated in foundational incident management documents**. As was described by practitioners as an area of frustration during the practitioner interviews, demonstrated and explored during the literature review and analysis, and addressed in the proposed new incident management conceptual model, many gaps, obfuscations, and areas of vague definition occur within current incident management doctrine and guidance, which lends itself to conflicts and operational degradation, and potentially decreased public safety and response. With greater definition and clarity, and by closing existing gaps (as is done in this study's proposed new incident management conceptual framework) incident management as an enterprise will become more effective, and incident management operations will become more successful and efficient.

- **Mission spaces of the various types of incident management practitioners and disciplines within the incident management enterprise are not defined, described, or bounded effectively enough in the primary and most widely referenced sources of incident management doctrine and guidance**. This subject was described as frustrating by practitioners during the practitioner interviews, and explored and demonstrated during the literature review and analysis, then addressed in the proposed new conceptual model. A better venue for national dialogue is needed to determine the best bounding of mission spaces.

- **Phases of incident management should be used as a tool for conceptual understanding, and three phases (preparedness, incident response, and consequence management) of incident management are perhaps sufficient for conveying the process**. As explored in the literature review and analysis, and described and defined in the new proposed conceptual model, the use of phases in recent federal doctrine as a tool for understanding and conceptualizing incident management has

stopped. However, still great value can be found in the use of incident management phases as a tool for conceptual understanding, and phases have been poorly defined in older doctrinal and literature sources. The phases of incident management are an integral part to understanding the process and sense-making aspects of incident management. Furthermore, three phases (preparedness, incident response, and consequence management) of incident management are perhaps best for conveying the process, as described in the new proposed lexicon.

- **A difference exists between appropriate or necessary and inappropriate or unnecessary mission creep in incident management, as well as a lack of doctrinal delineation between them**. This topic was mentioned in the practitioner interviews, and validated within the literature review. Interviewees gave examples, such as a county executing the responsibilities of a city on the city's behalf without being asked or given expressed permission when the city has no resource capability to execute its roles and responsibilities for public safety as an example of potentially appropriate or necessary mission creep. Whereas, an EOC redundantly, inadvertently, or purposely directing tactical operations in the field or at the incident is an example of inappropriate mission creep.

The following are a list of corrective actions which may help to address the above listed conclusions:

- **Practitioners should ensure practitioner, actor, and discipline mission spaces are bounded at the local level through local policies, EOPs, or annexes to EOPs**. This study's new proposed conceptual framework has examples of ways to potentially do that bounding, which will help to deconflict roles, responsibilities, actions, and operational frustrations amongst the practitioners, actors, and disciplines that make up the incident management enterprise while also potentially increasing overall efficacy and efficiency.

- **The concept of "phases" of incident management should be reintroduced into federal, state, and local doctrine, policy, and guidance**. The use of incident management phases as a tool for conceptual understanding is still germane to the doctrine of incident management, as demonstrated in this study's proposed conceptual model. The phases of incident management are an integral part to the comprehensive understanding of the process and sense-making aspects of incident management. Furthermore, three phases (preparedness, incident response, and consequence management) of incident management are appropriate for conveying the process, as demonstrated in the new proposed model.

APPENDIX A. INCIDENT MANAGEMENT PRACTITIONER INTERVIEW

"Understanding Incident Management"
David S Flamm, 1402
Advisor: Glen Woodbury
Co-Advisor: Lauren Fernandez

Name:
Position:
Years of Experience:
Career Highlights:

I. **Are you an incident manager, crisis manager, emergency manager, risk manager, or some other type of practitioner?**
This question will help in determining what an incident management practitioner is, and where confusion might be found.

II. **Have you managed or participated operationally in a real world incident?**
This question will help to legitimize the perspectives of the interviewee. It may also illuminate a point of conflict inherent in policy generation.

III. **In your experience, what are the primary sources of incident management conflict, confusion, or disagreement, if any?**
This will hopefully illicit an answer pointing at my proposed problem statement without any leading statements or questions.

IV. **Have you ever witnessed a hindrance in incident management operations or activities due to doctrine interpretation? Examples?**
This will ideally garner data about historic conflict genesis and confirm aspects of my problem statement.

V. **In your experience, have organizational differences or inconsistencies ever hindered collaborative incident management operations or activities? Examples?**
This question will garner specific examples of my problem statement, especially pertaining to consistency in mutual aid operations.

VI. **Have you experienced or witnessed incident management mission creep (people getting out of their operational lanes) due to current incident management doctrine, plans, or policies? Examples?**
This will touch on the lack of bounded mission space within incident management, and hopefully provide specific examples.

VII. **Have you witnessed internal organizational conflict due to competing incident management doctrine interpretations? Examples?**
This will demonstrate the vague nature of existing doctrine, and inherent lack of clarity.

VIII. **Have other practitioners you've interacted with communicated having had similar experiences as those identified in the previous questions?**
This will expand the legitimacy of the results of these interviews.

IX. **What has been the most helpful piece of incident management literature, doctrine, plans, or policy?**
This will hopefully garner some consensus and allow me to weight certain doctrine/literature in my literature review analysis.

X. **In your experience, what are the primary contributing factors related to operational performance in Incident Management?**
This will ideally specify issues specific to operations increasing the granularity of cause and effect analysis.

XI. **In your experience, what are the primary contributing factors to organizational/operational success in incident management?**
This will ideally specify issues specific to organizational makeup increasing the granularity of cause and effect analysis.

XII. **In your experience, what are the primary contributing factors related to incident management philosophy consistency or inconsistency?**
This will ideally specify issues specific to paradigms and philosophies increasing the granularity of cause and effect analysis.

APPENDIX B. APPLYING THE PROPOSED MODEL TO CASE EXAMPLES

Evaluating examples of large complex incident management events to determine what went well and where room for improvement is needed, is one way to determine the applicability and feasibility of this study's proposed conceptual model. These case examples serve as a way to test a model on past phenomena much like testing a theory of stocks or commodities trading on historical graphs and activity. Case examples can also help to highlight areas where current models demonstrate trends of deficiency or conflict.

The following models are evaluated in different ways depending on the data and information available about them. Regardless, each is distilled into the areas that worked well that coincide with this study's proposed model, and the areas that proved deficient that this study's proposed model would potentially alleviate. Four types of events or incidents are evaluated to ensure all or most types of events are covered, and to demonstrate the universal nature of this study's proposed model. The four types of events include a major recent Stafford Act event, a major recent Non-Stafford Act event, a domestic terrorist Non-Stafford Act event, and an off-shore Non-Stafford Act event. The specific events evaluated are Hurricane Sandy, the recent national Ebola Virus response, the Boston Marathon bombing event, and the recent Deepwater Horizon oil spill event.

A. 2010 DEEP WATER HORIZON RESPONSE (OFF-SHORE NON-STAFFORD ACT EVENT)

Deepwater Horizon serves as a fairly recent and appropriate example of a large-scale non-Stafford Act event with all the components of a large, complex, and dynamic incident management structure. The following description of the event is derived from the Coast Guard after action report:

> On the evening of April 20, 2010, an explosion aboard the Mobile Offshore Drilling Unit Deepwater Horizon set off a chain of events that led to the sinking of the drilling unit and subsequent oil spill. On April 29, 2010, the Secretary of Homeland Security declared the Deepwater Horizon incident a Spill of National Significance (SONS) under the

authority of the National Oil and Hazardous Substance Pollution Contingency Plan (NCP) (40 CFR 300.323).[100]

Due to the severity of the spill, the complexity of response efforts, and the potential impact on public health and the environment, this incident required extraordinary coordination among Federal and State agencies, tribal organizations, local governments, and BP, the responsible party. The response was a coordinated effort to secure the well, and contain and clean up the oil. A day after the declaration of the incident as a SONS, Admiral Thad Allen, United States Coast Guard, was designated as the National Incident Commander.[101]

After several attempts, BP was successful in securing the wellhead on July 15, 2010, and sealing the well on September 19, 2010. This incident tested, and in some cases exceeded, the limits of the Nation's oil spill response resources and capabilities developed after the 1989 Exxon Valdez oil spill in Alaska. The scope and duration of the Deepwater Horizon oil spill presented complex challenges to the response community. These challenges provided the catalyst to adapt proven technologies, employ new or innovative technologies, and apply ever-changing response tactics to address a dynamic response environment.[102]

In 2011, the Coast Guard completed an incident specific preparedness review (ISPR)[103] on the BP Oil Spill commonly referred to as the Deepwater Horizon Incident. To evaluate this event in relation to this study's proposed conceptual model, some of the Coast Guard's report findings, observations, and recommendations are evaluated to determine where the proposed model might have closed gaps, removed deficiencies, or is in conflict with the findings.

1. Conclusions in Support of Proposed Model

- A section of the conclusions surrounding the organization of the event points to appointed, executive, and elected officials having a key role in the overall response.[104] This key role demonstrates as evidence that like

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100 Robert J. Papp Jr., "Incident Specific Preparedness Review (ISPR)—Deepwater Horizon Oil Spill" (memorandum, U.S. Coast Guard. Department of Homeland Security March, 2011), http://www. uscg.mil/foia/docs/DWH/BPDWH.pdf.

101 Ibid.

102 Ibid.

103 Ibid.

104 Ibid., 57–61.

the proposed model demonstrates, elected officials and executives are indeed a part of the incident management enterprise, and its success and should be considered in doctrine as such.

- This document consistently hails the ICS as being an effective system, as demonstrated in the following quotes: "…ICS is well understood, accepted and utilized by most State and local emergency managers and the oil spill response community."[105] Also, "…the ICS organization worked well during this event."[106] This praise demonstrates that, at least at the incident level, ICS should continue to be the system of practice, as is outlined in this study's proposed model.

- The document states, "Leaders who are expected to perform as crisis managers need to be trained and experienced in crisis management, and should not be placed into such positions without applicable training."[107] This statement supports the proposed model's description of crisis managers and that elected officials need to develop skills and abilities just like all other incident management practitioners.

- According to the review, "White House and senior DHS staff were initially unfamiliar with the NCP response processes and their application to the Deepwater Horizon incident, which caused some confusion among senior leadership during the first few days of the response."[108] In addition, "There is a natural inclination for local officials to veer towards a Stafford Act response under the NRF because they are familiar with it and have greater control,"[109], and finally, "There is a natural inclination for local officials to veer towards a Stafford Act response under the NRF because they are familiar with it and have greater control."[110] These observations and findings demonstrate that event or scenario specific frameworks and models are not intuitive, as evidenced by the desire for local governments to utilize Stafford Act models due to their familiarity. One standard model for all event types should be instituted.

- Additionally, the findings and observations of this review demonstrate that a duplicity or variances in doctrines is a hindrance to incident management success. The following observation is an example, "During this incident, there was extensive confusion between doctrines set forth in the NRF and the NCP. The 'emergency management' community, comprising State and

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[105] Papp Jr., "Incident Specific Preparedness Review (ISPR)—Deepwater Horizon Oil Spill," 71.

[106] Ibid., 4.

[107] Ibid., 60.

[108] Ibid., 64.

[109] Ibid., 71.

[110] Ibid.

local emergency management officials, was unfamiliar with the NCP and the 'oil spill response' community did not see the applicability of the NRF to an oil spill."[111]

- The following observation demonstrates the need to integrate the concept of crisis better into incident management doctrine, "Superb crisis leadership is essential for effective response to a major national domestic incident."[112]

- One observation stated, "Organizational structures were not in place prior to the incident to accommodate the use of both the NCP and the NRF."[113] However, if one consistent model for all events was used, as this study proposes, it would not be an issue.

- The following observation and finding demonstrates that stimulus events need to be better defined, "The NRF created the basis for preparedness for State and local officials in planning for Stafford Act responses. The NRF does not contemplate an oil spill as an initiating event under the NRF. Environmental incidents, generally, fall outside the ambit of the National Planning Scenarios, which inform preparedness activities under the NRF."[114] This study attempts to close this gap by providing illumination to stimulus event types that allows for greater universal categorization.

2. Conclusions Not in Support of Proposed Model

- Throughout this document, the terms "crisis leadership" and "crisis management" are used somewhat interchangeably without great definition or specificity.[115] It also points out that elected officials and "leaders" are crisis managers.[116] This viewpoint is specifically in conflict with the proposed model, which identifies elected officials specifically as crisis leaders, but specifically excludes them from the category of crisis managers. While crisis management, and seemingly synonymously crisis leadership, seems to be popularly recognized as the interface with the public and public perception management, as this study highlights, a need does exist for greater definition in regards to the concept of "crisis." It is another example of how the term crisis is thrown around with cavalier disregard for specificity.

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[111] Papp Jr., "Incident Specific Preparedness Review (ISPR)—Deepwater Horizon Oil Spill," 71.

[112] Ibid., 60.

[113] Ibid.

[114] Ibid., 71.

[115] Ibid., 60.

[116] Ibid., 57.

- According to the review ICS *and* National Incident Management System (NIMS) worked well.[117] In fact, several times, NIMS and ICS are referred to synonymously as having worked effectively. It might be contended that ICS worked well where applied, but the fact that the National Response Framework (NRF) had room for improvement,[118] which is a part of the NIMS execution framework arguably, demonstrates that the success of NIMS should in fact be considered separately of ICS. ICS is a field level incident response and command structure, where NIMS is the larger description of the entire incident management endeavor, which obviously had flaws based on the number of findings and observations. To address the two collectively is disingenuous and serves little purpose for future improvement.

- It is stated throughout this review that the "national incident commander model" uniquely instituted for this event worked well.[119] Yet, the national incident commander for this event consistently is referred to as a "crisis manager" in this review.[120] However, this reference lends itself to the idea that incident command and crisis management are synonymous. Whereas, the need for a "person in charge" is called for several times.[121] Yet, it is highlighted that this person needs strong "crisis management" and "crisis leadership" skills, not incident command skills. It would seem that the moniker of "incident commander" is inappropriate and should perhaps be "national crisis leader," or "national crisis manager." The term "incident commander" should be reserved for those with positive control over the scene and responsibility for site safety and tactical control.

- It is stated in the review, "The NRF is predicated on a 'bottom up' approach to crisis management, placing the responsibility for incident management at the local level, with support from the State and Federal governments only when the incident exceeds local capabilities. The NCP is a 'top down' approach to crisis management, in which the Federal Government manages the response with participation by States and limited participation by local governments."[122] However, the model proposed by this study recommends a more modular component approach that does not dictate a top-down or bottom-up approach. It simply adds the components necessary to manage that incident based on location, jurisdiction, and necessity. A proper comprehensive incident management framework or

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[117] Papp Jr., "Incident Specific Preparedness Review (ISPR)—Deepwater Horizon Oil Spill," 4, 71.

[118] Ibid., 71.

[119] Ibid., 57.

[120] Ibid.

[121] Ibid., 60.

[122] Ibid., 71.

model should not be predicated on a bottom-up or top-down approach since incidents is too dynamic to dictate such a stipulation.

3. Conclusions regarding Deepwater Horizon

The Deepwater Horizon event demonstrated the value of the ICS on a large complex and dynamic event in a non-Stafford Act scenario. However, the many flaws and issues of the current NIMS were on display, particularly in regards to the universal interpretation and implementation of such a fragmented and disjointed model. This event served as a great example of the need for incident management conceptual framework reform. That being said, while many of the observations and findings of the after action process were valid and will serve to improve the current model, many continue to propagate confusions and areas of conflict or lacking clarity, such as a definition of crisis in regards to incident management.

Non-Stafford Act events that occur off-shore but impact many local jurisdictions would be served well by a model that is universal in its approach to incident types and governmental levels. If this study's model were applied nationally, it would surely serve to improve response efficacy, practitioner understanding, and interoperability and collaboration amongst agencies. This event is a shining example that incident management practitioners of any type should not have to shift their paradigms based on the event, and in fact, have a predilection not to.

B. 2014 DOMESTIC EBOLA RESPONSE (NON-STAFFORD ACT EVENT)

According to the Centers for Disease Control and Prevention (CDC), since March 2014, West Africa has experienced the largest outbreak of Ebola in history, with multiple countries affected. The most severely impacted countries include Sierra Leone, Guinea, and Liberia. During this outbreak, of those who have contracted the disease, two out of every five have died. As of March 27, 2016, the total cases (suspected, probable, and confirmed) stand at 28,646, while laboratory-confirmed cases are at 15,255, with the total death count at 11,323. The total count of verified cases in the United States currently

stands at four.[123] The following quote is an overview of actions taken in response to the Ebola outbreak found on the CDC website:

> In response to the outbreak, CDC activated its Emergency Operations Center to coordinate technical assistance and control activities with other U.S. government agencies, the World Health Organization, and other domestic and international partners. CDC also deployed teams of public health experts to West Africa. Widespread transmission of Ebola in West Africa has been controlled, although additional cases may continue to occur sporadically. However, because of ongoing surveillance and strengthened response capacities, the affected countries now have the experience and tools to rapidly identify any additional cases and to limit transmission.[124]

According to the White House's Office of the Press Secretary in 2014 (at the height of the outbreak), the President stated:

> The Ebola epidemic in West Africa and the humanitarian crisis there was a top national security priority for the United States. In order to contain and combat it, the U.S. partnered with the United Nations and other international partners to help the Governments of Guinea, Liberia, Sierra Leone, Nigeria, and Senegal respond while fortifying defenses at home.[125]

The national strategy, as dictated by the White House, was (and continues to be) predicated on four key goals:

- Controlling the epidemic at its source in West Africa;

- Mitigating second-order impacts, including blunting the economic, social, and political tolls in the region;

- Engaging and coordinating with a broader global audience; and,

- Fortifying global health security infrastructure in the region and beyond.[126]

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[123] "2014 Ebola Outbreak in West Africa," accessed March 13, 2016, http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/index.html.

[124] Ibid.

[125] "Fact Sheet, U.S. Response to the Ebola Epidemic in West Africa," September 16, 2014, https://www.whitehouse.gov/the-press-office/2014/09/16/fact-sheet-us-response-ebola-epidemic-west-africa.

[126] Ibid.

This September 2014 White House Office of the Press Secretary fact sheet[127] is a great source of evaluation in relation to this study's proposed conceptual model, as it addresses the federal government's incident management strategies, its event type perspective, its interoperability intentions with other incident management components, and the general lexicon applied to such an event. These aspects will be evaluated to determine where the proposed model might have closed gaps, removed deficiencies, provided a better lens for evaluating the threat or incident, or is in conflict with the national narrative at the time.

1. Elements in Support of the Proposed Model

- The White House fact sheet refers to the event as a "crisis" on several occasions.[128] Since an incident has not occurred within U.S. borders, but is a growing threat needing an outside response to ensure it did not adversely impact the organization (the organization being the federal government or the U.S. population) this event seems to be a perfect example of a crisis that could easily be justified as having a moral imperative for response. This event is exactly the type of crisis that could additionally justify the existence of a declaration of a state of emergency, especially since it requires the active preemptive or preventative coordination and collaboration of various emergency functions or disciplines.

- The fact sheet refers to a "whole-of-government" approach several times.[129] This reference demonstrates not only a need to apply incident management principles and concepts but also a need for various levels or components of the incident management structure to be applied. Much like the Deepwater Horizon event, this event has aspects that appear to be "top down"-centric, where other aspects might require a "bottom up"-centric approach (For example, when an infected person arrives at an airport and local agencies are forced to respond). This event is a perfect example of why a universal modular component approach to incident management, as is outlined in this study's proposed model, is more appropriate.

In addition to the "whole-of-government" approach that this fact sheet proposes, it also outlines the need for cooperative and collaborative efforts on an international scale,

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[127] "Fact Sheet, U.S. Response to the Ebola Epidemic in West Africa."

[128] Ibid.

[129] Ibid.

particularly when it states that the "CDC has provided on the ground expertise in the largest international response in its history."[130] This statement demonstrates a need to understand, at all levels, who is filling what mission spaces. This study's proposed model outlines the appropriate mission space for the "whole-of-government" approach, event when it includes foreign and international governments and agencies (such as the World Health Organization as this event did).

2. Elements not in Support of Proposed Model

- The fact sheet states, "More than 100 CDC personnel are on the ground in West Africa, and hundreds of personnel at their Emergency Operations Center in Atlanta have provided around the clock logistics, staffing, communication, analytics, management, and other support functions."[131] This statement insinuates that specific departments, representing specific functions, within the federal government have their own EOCs, as opposed to DOCs, as this study's proposed model recommends. As the CDC is one department (or office) under the larger parent organization being the federal government, it seems only appropriate that it should have a DOC that coordinates its specific functional response, where a federal EOC would coordinate the medical health function in relation to the other functions within the federal government organization. This viewpoint highlights an interesting area for analysis and further study. The argument can be made that a federal department is large enough to encapsulate various functions and disciplines so it should have an EOC for collaborative coordination and support. However, all those various functions, capabilities, and disciplines are still focused on ensuring the execution of the medical health (or more specifically, to the CDC epidemiological) function, which is a specific disciplinary function and accordingly should be coordinated via a DOC. That being said, it is an interesting area for continued study. It seems intuitive that the CDC operations center be considered a DOC where the federal government would have one single EOC.

- The fact sheet states, "The Ebola epidemic reminds us that our global efforts to build the capacity to prevent, detect, and rapidly respond to infectious disease threats like Ebola have never been more vital."[132] While it seems to be appropriate, based on the lexicon justifications provided in this study's proposed model, to consider an outbreak like this Ebola

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[130] "Fact Sheet, U.S. Response to the Ebola Epidemic in West Africa."

[131] Ibid.

[132] Ibid.

example a "crisis" or even a "crisis" justifying a "state of emergency," it seems hardly appropriate to consider it a "threat." Additionally, it seems like it would be better considered as a possibility defined as a hazard or vulnerability, but not a threat (unless it is used as a biological weapon) as no malicious intent is involved in its potential release.

3. Conclusions regarding the 2014 Domestic Ebola Response

The 2014 domestic Ebola response demonstrated an apparent need for a universal model that might be applied to all events. This event served as a great example of the need for incident management concepts to lend themselves to this study's proposed model. The need exists to understand the difference between DOCs and EOCs, the difference between "threat" and "crisis," as well as to understand and apply an incident management model that encapsulates components at the local and international level.

While many of the strategies and concepts of the fact sheet are valid and will serve to improve or complement the current incident management model, obvious examples of inherent confusion, areas of conflict, or areas of lacking clarity, such as the definition of crisis versus threat in regards to incident management, are introduced. Non-Stafford Act events like the 2014 Ebola crisis would be served well by a model that is universal in its approach to incident types and governmental levels. If this study's model were applied nationally (or internationally) it would surely serve to improve response efficacy, practitioner understanding, and interoperability and collaboration amongst agencies. This event is a shining example that incident management practitioners of any type should not have to shift their paradigms based on the event.

C. 2013 BOSTON MARATHON BOMBING RESPONSE (DOMESTIC TERRORISM NON-STAFFORD ACT EVENT)

The following quotes are an overview narrative description of the 2013 Boston Marathon Bombing taken from the Boston Massachusetts after action report for the event:

> April 15, 2013, was a perfect day for running. The air was cool, the sun was shining, and the complex logistics supporting the 117th Boston Marathon were operating smoothly. Every participant, be they mobility impaired, wheelchair racer, hand-cyclist, or runner, made their way to the Start Line with the emotions that are typically part of Marathon Day:

excitement, nervousness and a heartening spirit of perseverance. By 11:00 a.m., all 27,000 runners were on the course; by 12:36 p.m., the winners for each race category had been declared.[133]

The heart of the Boston Marathon is not about the winners; it is about the less renowned runners who seek their own personal victories as they make their way to Boston; it is about the hundreds of thousands of spectators who flock to the course to cheer them on; it is about the spirit of community, and commitment, and sacrifice so well reflected in the Patriots' Day holiday on which the Marathon takes place each year. The heart of the Boston Marathon is why so many people were still on the sidelines cheering on runners as they reached the Finish Line in the afternoon hours of April 15.[134]

At 2:49 p.m., the race was forever changed. Two homemade improvised explosive devices (IEDs) were detonated on Boylston Street in two separate locations near the Finish Line. These explosions took the lives of three spectators: eight-year-old Martin Richard, 29-year-old Krystle Campbell, and 23-year old Lu Lingzi. An additional 264 spectators were injured, many critically.[135]

This tragic event initiated a week-long response of the public safety, public health, and medical communities, which culminated in the death of one suspect, and the capture of another. In spite of the malevolence of the perpetrators of these actions, countless extraordinary acts of heroism, bravery and community triumphed.[136]

In December 2014, a multi-disciplinary and multi-jurisdictional after action review was coordinated and resulted in a comprehensive after action report. This report details best practices, lessons learned, and recommendations related to this event.[137] This after action report is a great source of evaluation in relation to this study's proposed conceptual model, as it addresses the governmental incident management strategies related to threat and crisis, integration with various incident management components,

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[133] Massachusetts Emergency Management Agency et al., *After Action Report for the Response to the 2013 Boston Marathon Bombings* (Boston: Massachusetts Emergency Management Agency et al., 2014), http://www.mass.gov/eopss/docs/mema/after-action-report-for-the-response-to-the-2013-boston-marathon-bombings.pdf.

[134] Ibid.

[135] Ibid., 15.

[136] Ibid.

[137] Ibid.

disciplines, levels, and the phases of incident management. These aspects are evaluated to determine where the proposed model may have closed gaps, removed deficiencies, provided a better lens for evaluating the threat or incident, or remains in conflict.

1. Findings and Observations in Support of the Proposed Model

- One of the key best practices identified in the after action report was the "strong relationships and successful unified command."[138] The report states, "strong relationships created and maintained by key leaders were paramount to ensuring commanders, agency heads, and political leaders came together quickly to form Unified Command and facilitate collaborative decision-making after the bombings in Boston and during the manhunt in Watertown."[139] This finding is an example of how unified command, a component recommended in this study's proposed model, can be used effectively.

- The timeline of events[140] highlights the extreme complexity of the response, which justified the use of a unified command, and demonstrates this study's proposal that a unified command should be used in highly complex incidents where a function or discipline lead is not at first apparent or obvious. Within the first hour of the event, simultaneous priorities for site safety, medical response and triage, hazardous materials monitoring, explosive ordinance disposal and monitoring, fire response, etc. occurred. This complexity, and initial scene uncertainty and disorder, necessitated fluidity in the unified response of various disciplines and required significant collaboration. Yet, not one primary priority or superseding priority would stipulate a single discipline or single incident commander model. Furthermore, as scene security was established, and the initial disorder transitioned to chaos then to complexity, the need for a unified command became no longer necessary, as demonstrated by the standing down of the unified combatant command (UCC) the following morning. This finding further supports this study's proposal for how and when a unified command should be implemented, as is stated in this study and demonstrated in this event, a unified command exists until uncertainty becomes certain, as disorder transitions through chaos to complexity. It primarily only exists during chaos and early complexity. It necessitates fluidity.

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[138] Massachusetts Emergency Management Agency et al., *After Action Report for the Response to the 2013 Boston Marathon Bombings*, 9.

[139] Ibid.

[140] Ibid., 18–24.

- Another example of this event's support of unified command concepts is demonstrated by the use of a separate unified command structure established to coordinate the manhunt in the days following the bombing incident.[141] Due to the unknown jurisdictional whereabouts and the multiple mission-oriented law enforcement jurisdictions of this event, a single discipline or function unified command structure was established amongst the various law enforcement agencies involved. This finding serves as another example of a unified command being used during complex crisis management and further supports this study's proposed model regarding the unified command concepts.

- The timeline of events outlined in this after action report[142] is a perfect example of the phases of incident management that this study's model proposes. The initial minutes-to-hour after the initial bomb blasts could probably best be described as disorder, and the initial organization and activation of a unified command to address the various uncertainties and simultaneous priorities serves as a great example of disorder organizing into chaos, then the transition from chaos to complexity was best demonstrated as the scene became secured, victims triaged and transported to hospitals, HAZMAT materials concerns eliminated, EOD sweeps completed, and the UCC stood down the following morning (in less than 10 hours[143]). Then, the continued complexity of transition occurred from site security and investigation to the eventual recovery of the scene, as well as the complexity of transitioning response personnel focus to the crisis management (pre-incident known active threat response) of finding the perpetrators who remained at large.

- The manhunt operations[144] that took place in the days following the bombing incident demonstrate the crisis management or response principles outlined in this study's proposed model. The law enforcement operations conducted during those days, and the shelter-in-place direction given to the local population, demonstrate a response with a focus on prevention and protection. Since a demonstrated known active threat (two individuals who had demonstrated a capability to attack with malicious intent) had occurred, as well as various potential pre-meditated targets or targets of opportunity, all the necessary elements of the crisis event type were met. Additionally, the activities of the protection of critical

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[141] Massachusetts Emergency Management Agency et al., *After Action Report for the Response to the 2013 Boston Marathon Bombings*, 113.

[142] Ibid., 18–24.

[143] Ibid.

[144] Ibid., 53–68.

infrastructure,[145] and the active prevention through pursuit, were demonstrations of the consolidated crisis management activity.

- The after action report findings included the following two areas for improvement, the "need to clearly define emergency response roles and responsibilities within the city", and "numerous command centers were not uniformly coordinated."[146] This finding is another example of how undefined emergency response roles continue to demonstrate national model conceptual and adoption deficiency and support this study's problem statement.

2. Findings and Observations not in Support of Proposed Model

- According to the after action report, one of the best practices was the fact that a Multi-Agency Coordination Center (MACC) was activated to ensure support for the marathon events. It goes on to state that the MACC was located at the state EOC.[147] However, later in the document, one of the identified areas of improvement states that the Boston EOC was not activated prior to the bombings, which caused a delay in a number of crucial information sharing and coordination activities and recommends activating the EOC in support of future marathons.[148] This study's proposed model suggests avoiding the term "MACC" and instead calling centers what their post-incident name would be so as not to force personnel to go through an unnecessary paradigm shift and reassign a title to something mid-operation. Even this after action report seems to condone the use of the term EOC over MACC in its recommendation on page 87.

- Throughout this after action report, it did not seem that the manhunt and the bombing were recognized as being two separate activities or events, or how or where that delineation threshold was determined.[149] Understanding and communicating that the manhunt was a pre-incident prevention and protection focused operation in a state-of-emergency much in the same way preparedness and mitigation actions must be taken prior to hurricane landfall helps the community understand the need for precautionary measures to be taken, and limits the perspective of overly-reactionary or disproportionate justice measures being taken. It helps

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[145] Massachusetts Emergency Management Agency et al., *After Action Report for the Response to the 2013 Boston Marathon Bombings*, 80.

[146] Ibid., 87–88.

[147] Ibid., 73.

[148] Ibid., 87.

[149] Massachusetts Emergency Management Agency et al., *After Action Report for the Response to the 2013 Boston Marathon Bombings*.

demonstrate the reality of the threat, and not the potentially overshadowing or misinterpretation of protection or prevention measures as vengeance-through-justice.

- In the timeline of events section of this after action report, it states that President Obama issued a declaration of emergency.[150] This event type categorization, while at first glance seems appropriate, is probably not the best classification for such an event. Since the scene of the incident had been under positive control at that point, and a definitive imminent impending incident was not known, but an active imminent threat of incident was occurring, and since an obvious crisis was being managed, it would probably have been more appropriate, based on the criteria set forth in this study's proposed model, to classify this event as a "state-of-emergency" rather than an "emergency."

3. Conclusions regarding the 2013 Boston Marathon Bombing Response

The 2013 Boston Marathon Bombing response was a perfect example of an event where intuition dictated appropriate response actions that fall in line with this study's proposed model, further demonstrating the value of the model and the likely ease of implementation, and universality of its concepts and principles. Additionally, given that this event was not a Stafford Act event, it demonstrated the universality and broad relevance of this study's proposed model. The need to understand the phases of incident management, dynamic incident management components and nuanced principles like unified command, and the value of properly framing the description, response activity justification, and dialogue surrounding operations and event-types can positively supplement an already successful operation, and potentially, turn an otherwise negative response positive.

Non-Stafford Act domestic terrorism events like the 2013 Boston Marathon Bombing and the subsequent manhunt crisis would be served well by a model that is universal in its approach to incident types and governmental levels. If this study's model were applied to all event types, it would surely serve to improve response efficacy, practitioner understanding, and interoperability and collaboration amongst agencies. This

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[150] Massachusetts Emergency Management Agency et al., *After Action Report for the Response to the 2013 Boston Marathon Bombings*, 25.

event is another shining example that incident management practitioners of any type should not have to shift their paradigms based on the event.

D.   2012 HURRICANE SANDY RESPONSE (STAFFORD ACT EVENT)

The following quotes are a description of the Hurricane Sandy response, as described in the FEMA after action report on the event:

> Hurricane Sandy, the second-largest Atlantic storm on record, affected the East Coast from Florida to Maine, as well as states as far inland as West Virginia, Ohio, and Indiana. The storm made landfall in southern New Jersey on October 29, 2012, battering the densely populated New York and New Jersey region with heavy rains, strong winds, and record storm surges. The storm's effects were extensive, leaving more than 8.5 million customers without power, causing widespread flooding throughout the region and contributing to acute fuel shortages in parts of New York and New Jersey. The storm damaged or destroyed hundreds of thousands of homes, caused tens of billions of dollars in damages, and killed at least 162 people in the United States.[151]

> The Federal Emergency Management Agency (FEMA) coordinated a large-scale Federal response that contributed to the integrated, national effort to support affected states and communities. In the days before Sandy's landfall, FEMA worked closely with Whole Community partners—including all levels of government, private and nonprofit sectors, faith-based organizations, communities, and individuals—to prepare for the storm and anticipate survivor needs. The Agency pre-positioned commodities and assets, activated response centers, and deployed over 900 personnel ahead of Sandy's landfall. In the initial response to the storm, the Agency coordinated with its partners to provide Federal resources and to develop innovative solutions to address power restoration, transportation, fuel distribution, and housing needs. As recovery efforts began, FEMA continued to work with its partners to assist survivors and their communities. The Agency executed one of the largest deployments of personnel in its history, delivered over $1.2 billion in housing assistance to more than 174,000 survivors, and obligated over $800 million for debris removal and infrastructure restoration.[152]

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[151] Craig W. Fugate, *Hurricane Sandy FEMA After-Action Report* (Washington, DC: Federal Emergency Management Agency, 2013), iii, http://www.fema.gov/media-library-data/20130726-1923-25045-7442/sandy_fema_aar.pdf.

[152] Ibid.

On December 9, 2012, Mayor Bloomberg directed the Deputy Mayor for Health and Human Services and the Deputy Mayor for Operations to "conduct an evaluation and report back in a short time with recommendations on how the City's response capacity and performance might be strengthened in the future."[153] This directive resulted in a report and 59 recommendations. The recommendations are reported to be based on "several months of intensive and comprehensive effort by City agencies, and include input from many stakeholders, including nonprofit partners, New York State agencies, and an extensive set of hearings held by the New York City Council."[154] This after action report is one of the reports evaluated for the purposes of testing the proposed conceptual model of this study.

In addition to the aforementioned city after action report, FEMA completed, in July 2013, an after action report addressing the federal response measures taken across the entire eastern seaboard. According to the report:

> Despite FEMA's many successes, the response to Sandy also revealed notable challenges in how FEMA coordinates with its Federal partners, supports state and local officials and disaster survivors, integrates with the Whole Community, and prepares and deploys its workforce. Difficulties with issuing timely mission assignments, the implementation of incident management structures, and meeting survivor needs early in the response phase are examples of challenges that emerged during Sandy.[155]

This FEMA after action report will also be evaluated for the purposes of testing the proposed conceptual model of this study.

These after action reports are a great source of evaluation in relation to this study's proposed conceptual model as they address contrasting government level incident management strategies, perspectives, interoperability capabilities with other incident management components, and the general contrasting lexicon applied to such an event. These aspects are evaluated to determine where the proposed model might have closed

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[153] Linda I. Gibbs and Caswell F. Halloway, *NYC Hurricane Sandy After Action Report* (New York: NYC, 2013), http://www.nyc.gov/html/recovery/downloads/pdf/sandy_aar_5.2.13.pdf.

[154] Ibid.

[155] Fugate, *Hurricane Sandy FEMA After-Action Report*, iii.

gaps, removed deficiencies, provided a better lens for evaluating the threat/incident, or is in conflict.

1.   Findings and Observations in Support of the Proposed Model

- In the FEMA after action report under Theme 1: Ensuring unity of effort across the federal response, and Theme 3: Fostering unity of effort across the whole community, the following areas for improvement were identified, implementing incident management structures, and coordinating among states, localities, and tribes.[156] This finding is a clear demonstration that the national incident management doctrine and conceptual model in its current format is not effective enough in its resonance with practitioners or in its implementation. This viewpoint supports this study's problem statement and demonstrates a need for a more intuitive and effective incident management conceptual model.

- In the FEMA after action report under Theme 1: Ensuring unity of effort across the federal response, the following area for improvement was identified, ensuring continuous improvement of disaster doctrine, policies, and plans.[157] This finding also demonstrates and specifically calls for an improvement to the foundational documents that create the existing national incident management conceptual model. It also highlights a weakness in making such improvements and methods for identifying the best principles for doctrinal inclusion, which supports this study's problem statement and may illustrate some causation.

- In the New York City after action report, a glaring deficiency or omission occurs regarding the effectiveness of local incident management practices or operations. The after action report seems to break down the evaluation areas on specific capabilities or functions with little regard for incident management as the overarching framework of operations.[158] This circumstance supports this study's problem statement and the notion that a lacking universal understanding of, appreciation for, or application of incident management as a conceptual metric exists for evaluating emergency operations. It also supports this study's assertion and practitioner survey finding that many practitioners do not know or consider themselves part of a larger incident management enterprise.

- The FEMA after action reports states:

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[156] Fugate, *Hurricane Sandy FEMA After-Action Report*, iv.

[157] Ibid.

[158] Gibbs, Halloway, and Caswell, *NYC Hurricane Sandy After Action Report*.

Until recently, FEMA lacked a formal, routine process to track and resolve continuous improvement actions across the Agency. FEMA's Lessons Learned/Continuous Improvement Program (LL/CIP) is aimed at addressing this challenge by outlining common processes, tools, and functions for documenting and sharing lessons learned throughout the Agency. As part of the LL/CIP, FEMA has established a FEMA Continuous Improvement Working Group (CIWG), responsible for assigning and tracking continuous improvement actions that are beyond the resolution capability of a single FEMA component or that have Agency-wide implications. The FEMA CIWG includes senior-level representation from FEMA components and will meet at least quarterly. The FEMA CIWG convened its first meeting on February 7, 2013, and will monitor and report on the progress of FEMA components in addressing the areas for improvement identified in this report.[159]

This finding supports the findings of this study, and may serve to highlight some of the causation for the current state of the national incident management conceptual model.

- The FEMA after action report states:

  as of October 1, 2012, FEMA launched a new FQS that defines the training, experience, and demonstrated performance required to become credentialed in each of the disaster workforce positions. Because FQS launched shortly before Sandy, FEMA may adequately address the challenges noted above through planned activities in support of full implementation. However, in the interim, Sandy did reveal that FEMA may lack a coherent strategy to address temporary personnel shortfalls in specific FQS programs, especially for large-scale events.[160]

  This finding supports this study's conceptual model regarding KSAs and highlights the need to have highly competent and trained incident management practitioners.

2. **Findings and Observation not in Support of Proposed Model**

- The FEMA after action report states:

  Sandy response operations in New York and New Jersey revealed inconsistencies in the way FEMA establishes incident management structures for large-scale incidents. Agency doctrine gives FEMA

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[159] Fugate, *Hurricane Sandy FEMA After-Action Report*, 16.

[160] Ibid., 32–33.

choices of different organizational structures to meet the needs of an incident. During response efforts to Sandy, FEMA used an organizational structure that included geographical branches and divisions and an Area Coordination Group responsible for the two hardest-hit states. FEMA experienced challenges implementing these structures, which are designed for larger incidents. FEMA's *Incident Management Handbook* provides guidance for three potential organizational constructs for disaster operations. FEMA most commonly uses a functional structure, organizing itself around the programs that it delivers. The second approach—a geographic structure—allows FEMA to organize by dividing its staff into divisions based on the geography of the affected area. The third approach—a combined organization structure— combines functional and geographic approaches. For Sandy, FEMA chose this combined organization construct for response and initial recovery activities in New York and New Jersey. This approach was designed to facilitate centralized program decision-making, while ensuring appropriate geographic coverage.[161]

While this finding highlights difficulties in implementing various organizational structures, a model that this study's proposed model discourages recommending instead a consistent simplified modular model for greatest familiarity and practitioner adoption, it proposes a solution that does not seem to be potent enough. It recommends simply updating its *Incident Management Handbook* to better outline command structures.[162] This solution is not effective or broad enough. The federal government should organize itself in a common incident management organizational model that reflects every other level of government or incident management level as proposed by this study.

- Several of the FEMA after action report areas for improvement highlight confusion and inefficiencies bred from the implementation of unfamiliar organizational models.[163] While this study's conceptual model supports this area for improvement, this after action report does not go far enough in recommending strong areas for improvement that would support and endorse static and familiar organizational models to improve the practitioner conceptual adoption and familiarity.

- The FEMA after action report states:

  as of October 1, 2012, FEMA launched a new FQS that defines the training, experience, and demonstrated performance required to

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161 Fugate, *Hurricane Sandy FEMA After-Action Report*, 12.

162 Ibid., 14.

163 Ibid., 14–15.

become credentialed in each of the disaster workforce positions. Because FQS launched shortly before Sandy, FEMA may adequately address the challenges noted above through planned activities in support of full implementation. However, in the interim, Sandy did reveal that FEMA may lack a coherent strategy to address temporary personnel shortfalls in specific FQS programs, especially for large-scale events.[164]

While this statement does support this study's conceptual model regarding KSAs, it does not address the areas of expertise in alignment with incident management enterprise practitioners and the universal modular approach recommended by this study's model.

- The New York City after action report is not organized in any way to reflect or evaluate overall incident management effectiveness.[165] This lack of organization is in complete (intentionally or not) conflict with the entire premise of this study. Events, such as Hurricane Sandy, should always be evaluated through a lens of incident management efficacy and improvement.

3. Conclusions regarding the 2012 Hurricane Sandy Response

Stafford Act events *should* be the events where current incident management models are best implemented. This event highlighted with unfortunate gravity how much room for improvement, simplification, and standardization this study's current model has. A nationally uniform, simple, and intuitive model is obviously called upon, and this study's proposed conceptual model may very well be a viable part of that solution.

This event, like the others evaluated, served as a great example of the need for incident management concepts to lend themselves to this study's proposed model, and the need to understand and apply an incident management model that encapsulates components from the local to the international level. While many of the strategies and concepts of the two after action reports were valid and will serve to improve or complement the current incident management capability, obvious examples of inherent confusion, areas of conflict, or areas of lacking clarity do appear. Stafford Act events like the 2012 Hurricane Sandy disaster, and indeed all events or incidents, would be well served by a model that is universal in its approach to incident types and governmental

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[164] Fugate, *Hurricane Sandy FEMA After-Action Report*, 32–33.

[165] Gibbs, Halloway, and Caswell, *NYC Hurricane Sandy After Action Report*.

levels. If this study's model were applied nationally (or internationally) it would surely serve to improve response efficacy, practitioner understanding, and interoperability and collaboration amongst agencies. This event is a shining example that incident management practitioners of any type should not have to shift their paradigms based on the event.

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